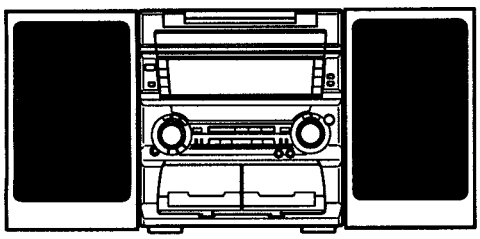
aiwa

aiwa SERVICE

Z-HT63

SERVICE MANUAL



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM: 2ZM-3MK2 PR5NM
- BASIC CD MECHANISM: 6ZG-1 SDSHNM
- TYPE: U

REVISION PUBLISHING

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
Z-HT63	CX-ZHT63	SX-ZHT65 SX-C605 SX-R275	RC-ZAS05

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-991-321-2T1).
- If requiring information about the CD mechanism, see Service Manual of 6ZG-1 (S/M Code No.09-984-249-9OT).

S/M Code No. 09-993-406-3R1

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SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<AM Tuner section>

Tuning range	530 kHz to 1710 kHz (10 kHz step) 531 kHz to 1602 kHz (9 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

<Amplifier section>

Power output	**Front:** 50 W + 50 W (50 Hz ~ 20 kHz, THD less than 1 %, 6 ohms) **Rear (Surround):** 20 W + 20 W (50 Hz ~ 20 kHz, THD less than 1 %, 8 ohms) **Center:** 20 W (50 Hz ~ 20 kHz, THD less than 1%, 8 ohms)
Total harmonic distortion	**Front:** 0.15 % (25 W, 1 kHz, 6 ohms, DIN AUDIO) **Rear (Surround):** 0.15 % (10 W, 1 kHz, 8 ohms) **Center:** 0.1% (10 W, 1 kHz, 8 ohms)
Inputs	VIDEO/AUX: 310 mV (adjustable) PHONO: 400 mV (47 kohms) 5.1CH INPUT: FRONT: 500 mV SURROUND: 300 mV CENTER: 300 mV SUB WOOFER: 500 mV MIC1, MIC2: 1.4mV (20 kohms)
Outputs	CD DIGITAL OUT (OPTICAL) SUB WOOFER: 1V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS: accept speakers of 8 -16 ohms or more CENTER SPEAKER: accept speakers of 8 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Signal-to-noise ratio	50 dB (CrO_2 tape peak level, above 400Hz)
Recording system	AC bias
Heads	Deck 1 : playback head x 1 Deck 2 : Recording/Playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.03 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX-ZHT65>

Cabinet type	3 way, bass reflex
Speakers	woofer: 220 mm cone type Tweeter: 60 mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	89 dB/W/m
Dimensions (W x H x D)	290 x 444 x 306 mm ($11^1/_2$ x $17^3/_4$ x $12^1/_8$ in.)
Weight	6.3 kg (13 lb. 14 oz.)

<General>

Power requirements	120 V AC, 60 Hz
Power consumption	130 W
Dimensions of main unit (W x H x D)	360 x 394.5 x 387.5 mm ($14^1/_4$ x $15^5/_8$ x $15^3/_8$ in.)
Weight of main unit	10 kg (22 lb. 1 oz)

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.
- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.

ACCESSORIES / PACKAGE LIST

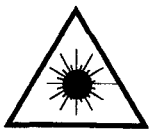
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-MAP-903-010		IB,U(ESF)M
2	87-043-115-010		ANT,FEEDER FM
3	87-A90-030-010		ANT,LOOP AM-NC C
4	8Z-NFV-702-010		RC UNIT,RC-ZAS05

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

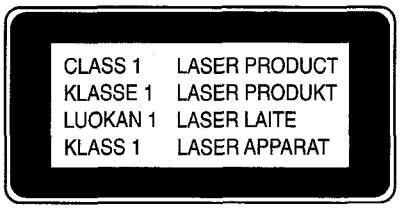
VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!
Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



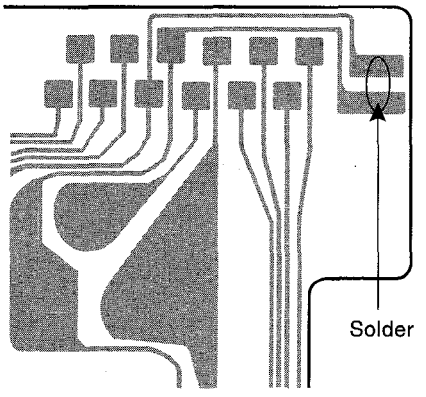
Precaution to replace Optical block

(KSS – 213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in right figure.

PICK-UP Assy P.C.B



NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, the secondary defect can occur.
In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

① Remove the AC power cord.
② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.
③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
⑤ Check that voltage across C101 and C102 has decreased 1 V or less using a multimeter or an oscilloscope.

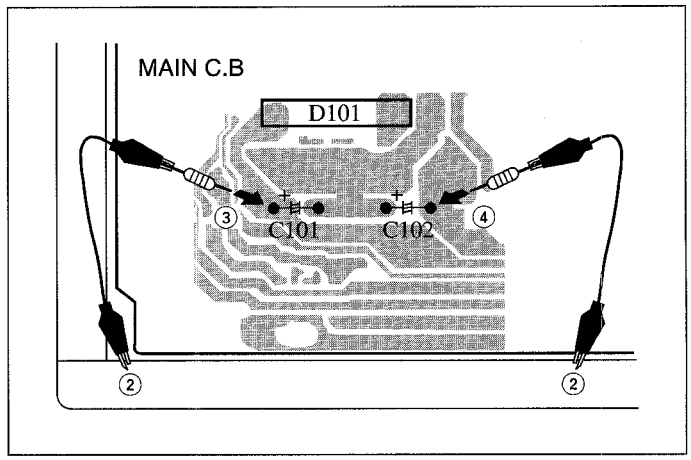


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor (Ω)	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitors on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is "H", the MICROCOMPUTER is judged to be operating correctly. When this terminal is "L", the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.
When the MICROCOMPUTER is not defective, the HOLD terminal can also go "L" when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to "L".

- Good or no good judgement of the MICROCOMPUTER

① Turn on the AC main power.
② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the "H" level or not.
③ When the HOLD terminal is "L" level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

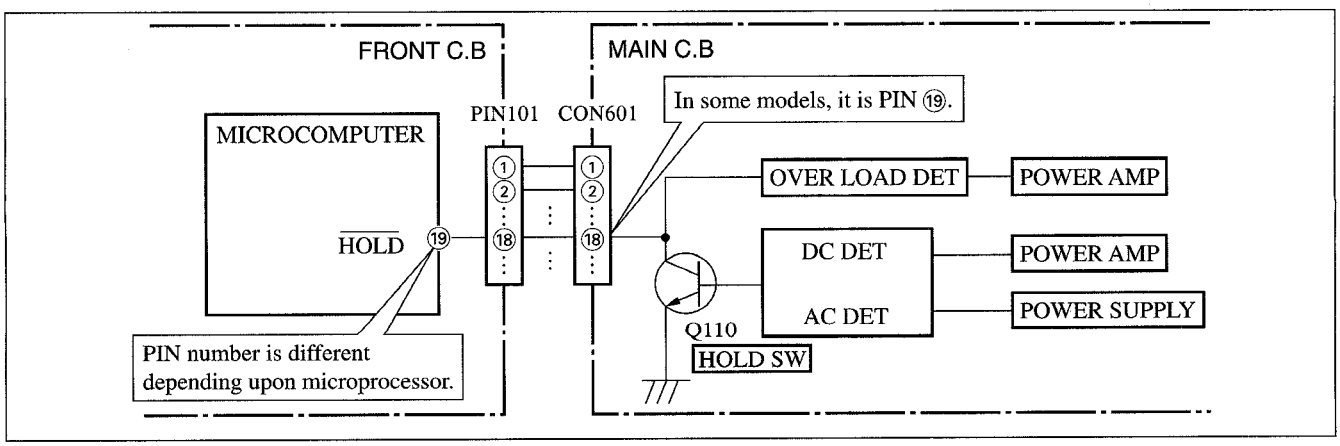


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.
When the above described phenomenon occurs, it can leads to wrong judgement as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

① Remove the AC power cord.

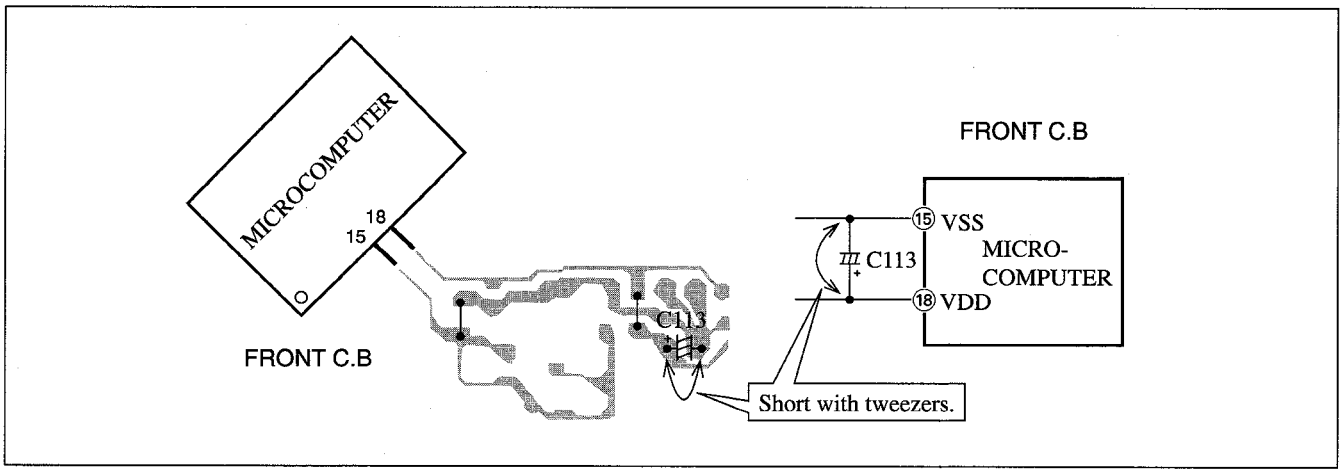


Fig-2-2

② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	8Z-MA1-601-010		C-IC,LC876580W-5K53
	87-A20-914-010		IC,SPS-442-1-F
	87-A21-021-040		C-IC,BU2099FV
	87-A20-455-010		IC,HA12211
	87-A21-023-040		C-IC,BA3835F
	87-A21-022-040		C-IC,BA3880FS
	87-A21-202-040		C-IC,M62445AFP
	87-A21-097-040		C-IC,M62463AFP
	87-A21-015-040		C-IC,M62491FP
	87-070-127-110		IC,LC72131 D
	87-A20-913-010		IC,LA1837NL
	87-020-454-010		IC,DN 6851
TRANSISTOR			
	87-026-245-080		TR,DTC114ES
	87-026-609-080		TR,KTA1266GR
	87-A30-198-080		TR,KTC3199GR
	87-026-610-080		TR,KTC3198GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-075-080		C-TR,2SA1235F
	87-A30-196-080		TR,2SC4115SRS
	87-A30-087-080		C-FET,2SK2158
	87-A30-257-080		C-TR,2SD1306E
	87-A30-159-080		C-TR,KTA1298Y
	89-112-965-080		TR,2SA1296 (0.75W)
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-268-040		C-TR,2SA1514K(S)
	87-A30-190-080		TR,CC5551
	87-A30-106-070		C-TR,CMBT5551
	87-A30-105-080		C-TR,RT1P 441C
	87-A30-074-080		C-TR,RT1P 141C
	87-A30-119-080		C-TR,2SC3906K R
	87-A30-186-010		FET,2SK3053
	87-A30-086-070		C-TR,CSD1306E
	89-327-143-080		C-TR,2SC2714(O)
	87-A30-072-080		C-TR,RT1P144C
	87-A30-214-010		TR,2SB1344
	87-A30-215-010		TR,2SD2025
	87-A30-098-010		TR,FP1016
	89-213-702-010		TR,2SB1370E
	87-A30-097-010		TR,FN1016
	87-026-463-080		TR,2SA933S
	87-026-444-040		C-TR,DTA123EK
DIODE			
	87-017-654-060		DIODE,GBU6J
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-328-010		DIODE, GBU4JL
	87-A40-341-080		ZENER,MTZJ 36 A
	87-A40-435-080		ZENER,MTZJ30D
	87-020-465-080		DIODE,1SS133 (110MA)
	87-A40-345-080		ZENER,MTZJ10C
	87-A40-270-080		C-DIODE,MC2838
	87-A40-269-080		C-DIODE,MC2836
	87-A40-004-080		ZENER,MTZJ16A
	87-A40-509-080		ZENER,MTZJ6.8C
	87-A40-488-080		DIODE,1SS244
	87-020-331-080		CHIP-DIODE,DAN202K
	87-017-932-080		ZENER,MTJ6.2B
	87-070-136-080		ZENER,MTZJ5.1B
	87-A40-438-080		ZENER,MTZJ4.7A
	87-A40-184-090		DIODE,RK34(F)
	87-A40-002-080		ZENER,MTZJ5.1C
	87-A40-442-080		ZENER,MTZJ9.1A
	87-A40-234-080		ZENER,MTZJ5.6A

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
MAIN C.B			
C1	87-012-369-080		C-CAP,S 0.047-50F
C2	87-012-369-080		C-CAP,S 0.047-50F
C3	87-012-368-080		C-CAP,S 0.1-50 F
C4	87-012-368-080		C-CAP,S 0.1-50 F
C5	87-012-368-080		C-CAP,S 0.1-50 F
C6	87-012-368-080		C-CAP,S 0.1-50 F
C9	87-016-658-090		CAP,E 4700-35 SMG
C10	87-016-658-090		CAP,E 4700-35 SMG
C21	87-010-385-080		CAP, ELECT 220-25V
C22	87-010-385-080		CAP, ELECT 220-25V
C23	87-010-247-080		CAP, ELECT 100-50V
C24	87-010-247-080		CAP, ELECT 100-50V
C25	87-010-430-080		CAP, ELECT 100-63
C26	87-010-263-080		CAP, ELECT 100-10V
C27	87-012-140-080		C-CAP,S 470P-50 J CH
C28	87-010-263-080		CAP, ELECT 100-10V
C29	87-010-247-080		CAP, ELECT 100-50V
C30	87-010-112-080		CAP, ELECT 100-16V
C31	87-010-235-080		CAP,E 470-16 SME
C61	87-010-260-080		CAP, ELECT 47-25V
C62	87-010-496-080		CAP,E 3.3-50 5L
C101	87-010-185-080		C-CAP,S 3900P-50 K B
C102	87-010-185-080		C-CAP,S 3900P-50 K B
C123	87-010-176-080		C-CAP,S 680P-50 J SL
C124	87-010-176-080		C-CAP,S 680P-50 J SL
C125	87-012-368-080		C-CAP,S 0.1-50 F
C126	87-012-368-080		C-CAP,S 0.1-50 F
C127	87-012-368-080		C-CAP,S 0.1-50 F
C128	87-012-368-080		C-CAP,S 0.1-50 F
C129	87-010-191-080		C-CAP,S 0.015-50 Z F
C130	87-010-191-080		C-CAP,S 0.015-50 Z F
C131	87-010-197-080		C-CAP,S 0.01-25 K B
C132	87-010-197-080		C-CAP,S 0.01-25 K B
C134	87-010-553-080		CAP,E 47-16
C136	87-012-368-080		C-CAP,S 0.1-50 F
C201	87-010-402-080		CAP, ELECT 2.2-50V
C202	87-010-402-080		CAP, ELECT 2.2-50V
C203	87-010-182-080		C-CAP,S 2200P-50 B
C204	87-010-182-080		C-CAP,S 2200P-50 B
C229	87-010-993-080		C-CAP,S 0.056-25 B
C230	87-010-993-080		C-CAP,S 0.056-25 B
C231	87-010-196-080		C-CAP,S 0.01-25 Z F
C232	87-010-196-080		C-CAP,S 0.01-25 Z F
C233	87-015-819-080		C-CAP,0.01-50 K B
C234	87-015-819-080		C-CAP,0.01-50 K B
C237	87-010-322-080		C-CAP,S 100P-50 CH
C239	87-010-196-080		C-CAP,S 0.1-25 Z F
C251	87-010-402-080		CAP, ELECT 2.2-50V
C252	87-010-184-080		C-CAP,S 3300P-50 B
C301	87-010-318-080		C-CAP,S 47P-50 CH
C302	87-010-318-080		C-CAP,S 47P-50 CH
C303	87-012-157-080		C-CAP,S 330P-50 CH
C304	87-012-157-080		C-CAP,S 330P-50 CH
C305	87-012-145-080		C-CAP,S 270P-50 J CH
C306	87-012-145-080		C-CAP,S 270P-50 J CH
C307	87-010-196-080		C-CAP,S 0.1-25 Z F
C309	87-010-196-080		C-CAP,S 0.1-25 Z F
C310	87-010-196-080		C-CAP,S 0.1-25 Z F
C311	87-010-198-080		C-CAP,S 0.022-25 K B
C312	87-010-198-080		C-CAP,S 0.022-25 K B
C313	87-010-180-080		C-CAP,S 1500P-50 B
C314	87-010-180-080		C-CAP,S 1500P-50 B
C315	87-010-179-080		C-CAP,S 1200P-50 K B
C316	87-010-179-080		C-CAP,S 1200P-50 K B
C321	87-012-142-080		CAP, S 0.33-16
C322	87-012-142-080		CAP, S 0.33-16
C324	87-010-260-080		CAP, ELECT 47-25V
C325	87-010-370-080		CAP,E 330-6.3 SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C327	87-010-404-080		CAP, ELECT 4.7-50V
C328	87-010-404-080		CAP, ELECT 4.7-50V
C332	87-010-196-080		C-CAP,S 0.1-25 Z F
C335	87-010-401-080		CAP, ELECT 1-50V
C336	87-010-401-080		CAP, ELECT 1-50V
C337	87-010-196-080		C-CAP,S 0.1-25 Z F
C339	87-010-196-080		C-CAP,S 0.1-25 Z F
C340	87-010-196-080		C-CAP,S 0.1-25 Z F
C351	87-012-140-080		C-CAP,S 470P-50 J CH
C352	87-012-140-080		C-CAP,S 470P-50 J CH
C354	87-010-175-080		C-CAP,S 560P-50 J SL
C355	87-012-349-080		C-CAP,S 1000P-50 CH
C356	87-010-260-080		CAP, ELECT 47-25V
C357	87-010-197-080		C-CAP,S 0.01-25 K B
C358	87-010-183-080		C-CAP,S 2700P-50 B
C359	87-010-183-080		C-CAP,S 2700P-50 B
C360	87-010-183-080		C-CAP,S 2700P-50 B
C370	87-010-196-080		C-CAP,S 0.1-25 Z F
C373	87-016-083-080		C-CAP,S 0.15-16 RK
C374	87-016-083-080		C-CAP,S 0.15-16 RK
C378	87-010-196-080		C-CAP,S 0.1-25 Z F
C379	87-010-382-080		CAP, ELECT 22-25V
C380	87-010-382-080		CAP, ELECT 22-25V
C386	87-010-196-080		C-CAP,S 0.1-25 Z F
C388	87-012-156-080		C-CAP,S 220P-50 CH
C391	87-010-319-080		C-CAP,S 56P-50 CH
C392	87-010-319-080		C-CAP,S 56P-50 CH
C393	87-010-319-080		C-CAP,S 56P-50 CH
C394	87-010-319-080		C-CAP,S 56P-50 CH
C401	87-010-196-080		CHIP CAPACITOR,0.1-25
C402	87-010-260-080		CAP, ELECT 47-25V
C403	87-010-404-080		CAP, ELECT 4.7-50V
C404	87-010-404-080		CAP, ELECT 4.7-50V
C405	87-010-404-080		CAP, ELECT 4.7-50V
C406	87-010-404-080		CAP, ELECT 4.7-50V
C407	87-010-188-080		C-CAP,S 6800P-50 K B
C408	87-010-188-080		C-CAP,S 6800P-50 K B
C409	87-012-140-080		C-CAP,S 470P-50 J CH
C410	87-012-140-080		C-CAP,S 470P-50 J CH
C411	87-010-404-080		CAP, ELECT 4.7-50V
C412	87-010-404-080		CAP, ELECT 4.7-50V
C413	87-010-404-080		CAP, ELECT 4.7-50V
C414	87-010-404-080		CAP, ELECT 4.7-50V
C415	87-010-197-080		C-CAP,S 0.01-25 K B
C416	87-010-197-080		C-CAP,S 0.01-25 K B
C417	87-010-956-080		CHIP-CAP,S 0.068-25B
C418	87-010-956-080		CHIP-CAP,S 0.068-25B
C419	87-010-260-080		CAP, ELECT 47-25V
C421	87-012-158-080		C-CAP,S 390P-50 J CH
C422	87-012-158-080		C-CAP,S 390P-50 J CH
C451	87-010-401-080		CAP,E 1-50 M
C452	87-010-401-080		CAP,E 1-50 M
C467	87-010-196-080		C-CAP,S 0.1-25 Z F
C601	87-010-180-080		C-CAP,S 1500P-50 K B
C602	87-010-180-080		C-CAP,S 1500P-50 K B
C605	87-010-318-080		C-CAP,S 47P-50 J CH
C606	87-010-318-080		C-CAP,S 47P-50 J CH
C607	87-010-318-080		C-CAP,S 47P-50 J CH
C608	87-010-318-080		C-CAP,S 47P-50 J CH
C611	87-010-197-080		C-CAP,S 0.01-25 K B
C612	87-010-322-080		C-CAP,S 100P-50 J CH
C613	87-016-081-080		C-CAP,S 0.1-16 RK
C614	87-016-081-080		C-CAP,S 0.1-16 RK
C619	87-010-185-080		C-CAP,S 3900P-50 B
C620	87-010-185-080		C-CAP,S 3900P-50 B
C621	87-010-401-080		CAP, ELECT 1-50V
C622	87-010-401-080		CAP, ELECT 1-50V
C627	87-010-196-080		CHIP CAPACITOR,0.1-25
C628	87-010-322-080		C-CAP,S 100P-50 J CH
C629	87-010-405-080		CAP, ELECT 10-50V
C630	87-010-213-080		C-CAP,S 0.015-50 B
C631	87-010-992-080		C-CAP,S 0.047-25 B
C632	87-010-263-080		CAP, ELECT 100-10V
C633	87-010-263-080		CAP, ELECT 100-10V
C634	87-010-196-080		C-CAP,S 0.1-25 Z F
C635	87-010-196-080		C-CAP,S 0.1-25 Z F
C636	87-010-992-080		C-CAP,S 0.047-25 B
C637	87-010-183-080		C-CAP,S 2700P-50 B
C641	87-010-196-080		C-CAP,S 0.1-25 Z F
C653	87-010-322-080		C-CAP,S 100P-50 J CH
C654	87-010-322-080		C-CAP,S 100P-50 J CH
C661	87-010-318-080		C-CAP,S 47P-50 J CH
C662	87-010-318-080		C-CAP,S 47P-50 J CH
C663	87-010-318-080		C-CAP,S 47P-50 J CH
C664	87-010-318-080		C-CAP,S 47P-50 J CH
C677	87-010-196-080		C-CAP,S 0.1-25 Z F
C678	87-010-196-080		C-CAP,S 0.1-25 Z F
C731	87-010-560-080		CAP,E 10-50 GAS
C732	87-010-196-080		CHIP CAPACITOR,0.1-25
C733	87-010-196-080		CHIP CAPACITOR,0.1-25
C734	87-012-157-080		C-CAP,S 330P-50 CH
C735	87-010-178-080		C-CAP,S 1000P-50 K B
C736	87-010-196-080		CHIP CAPACITOR,0.1-25
C801	87-010-176-080		C-CAP,S 680P-50 SL
C802	87-010-176-080		C-CAP,S 680P-50 SL
C803	87-010-958-080		CHIP -CAP,S 0.01-25BJ
C804	87-010-958-080		CHIP -CAP,S 0.01-25BJ
C805	87-010-958-080		CHIP -CAP,S 0.01-25BJ
C806	87-010-958-080		CHIP -CAP,S 0.01-25BJ
C807	87-010-401-080		CAP, ELECT 1-50V
C808	87-010-401-080		CAP, ELECT 1-50V
C809	87-010-196-080		C-CAP,S 0.1-25 Z F
C810	87-010-112-080		CAP, ELECT 100-16V
C811	87-010-495-080		CAP,E2.2-50
C812	87-010-495-080		CAP,E2.2-50
C813	87-010-401-080		CAP, ELECT 1-50V
C814	87-010-494-080		CAP ELECT GAS 1/50
C815	87-010-492-080		CAP,E 0.33-50 M 5L SRE
C816	87-010-492-080		CAP,E 0.33-50 M 5L SRE
C817	87-010-221-080		CAP, ELECT 470-10V
C818	87-010-404-080		CAP, ELECT 4.7-50V
C819	87-A10-800-080		C-CAP,S 6800P-16 J B CM
C820	87-010-374-080		CAP, ELECT 47-10V
C821	87-010-196-080		C-CAP,S 0.1-25 Z F
C822	87-010-196-080		C-CAP,S 0.1-25 Z F
C824	87-010-374-080		CAP, ELECT 47-10V
C825	87-010-196-080		C-CAP,S 0.1-25 Z F
C829	87-010-544-080		CAP, ELECT 0.1-50V
C830	87-012-142-080		CAP, S 0.33-16
C831	87-010-971-080		C-CAP,S 4700P-50 B J
C832	87-012-349-080		C-CAP,S 1000P-50 CH
C833	87-A10-793-080		C-CAP,S 0.12-16 K B
C834	87-A10-182-080		C-CAP,S 0.27-16 J B
C835	87-A10-182-080		C-CAP,S 0.27-16 J B
C836	87-A10-793-080		C-CAP,S 0.12-16 K B
C837	87-010-971-080		C-CAP,S 4700P-50 B J
C838	87-012-349-080		C-CAP,S 1000P-50 CH
C839	87-010-805-080		CAP, S 1-16
C840	87-010-401-080		CAP, ELECT 1-50V
C841	87-A10-799-080		C-CAP,S 5600P-16 J B CM
C842	87-A10-802-080		C-CAP,S 0.047-16 J B CM
C843	87-A10-229-080		C-CAP,S 0.68-10 K W5
C844	87-012-393-080		C-CAP,S 0.22-16 R K
C845	87-012-393-080		C-CAP,S 0.22-16 R K
C846	87-010-404-080		CAP, ELECT 4.7-50V
C847	87-010-404-080		CAP, ELECT 4.7-50V
C848	87-012-393-080		C-CAP,S 0.22-16 R K
C849	87-012-393-080		C-CAP,S 0.22-16 R K
C850	87-016-081-080		C-CAP,S 0.1-16 RK
C851	87-A10-802-080		C-CAP,S 0.047-16 J B CM

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C852	87-A10-802-080		C-CAP,S 0.047-16 J B CM
C853	87-016-081-080		C-CAP,S 0.1-16 RK
C854	87-016-081-080		C-CAP,S 0.1-16 RK
C855	87-A10-801-080		C-CAP,S 0.022-16 J B CM
C856	87-A10-801-080		C-CAP,S 0.022-16 J B CM
C857	87-016-081-080		C-CAP,S 0.1-16 RK
C861	87-010-196-080		C-CAP,S 0.1-25 Z F
C863	87-010-196-080		C-CAP,S 0.1-25 Z F
C865	87-012-141-080		CHIP-CAPACITOR,0.22-16F
C866	87-010-194-080		CAP, CHIP 0.047
C867	87-012-142-080		C-CAP,S 0.33-16 Z F
C868	87-A10-060-080		C-CAP,S 0.18-16 K B
C878	87-010-401-080		CAP, ELECT 1-50V
C879	87-010-179-080		C-CAP,S 1200P-50 K B
C880	87-010-179-080		C-CAP,S 1200P-50 K B
C881	87-010-179-080		C-CAP,S 1200P-50 K B
C882	87-010-179-080		C-CAP,S 1200P-50 K B
C898	87-012-361-080		C-CAP,S 0.056-25 Y
C899	87-010-196-080		C-CAP,S 0.1-25 Z F
CN001	87-A60-739-010		CONN,13P JL-BT
CN201	87-A60-739-010		CONN,13P JL-BT
CN301	87-099-827-010		CONN,3P S2M-3W
CN351	87-099-832-010		CONN,8P S2M-8W
CN601	87-099-719-010		CONN,30P TYK-B(X)
CN602	87-A60-131-010		CONN,6P V FE
CN604	87-099-570-010		CONN,13P TUC-P13P-B1
J202	87-A60-483-010		JACK,DIA6.3 BLK ST W/S KM
J203	87-033-240-010		TERMINAL,SP 4P32SV1-05
J204	87-A60-752-010		JACK,PIN 4P R/W,O/B
J603	87-099-625-010		JACK PIN 4P,RVS (KM)
J831	87-A60-746-010		JACK,PIN 6P R/W,R/W, O/B
L101	87-003-383-010		COIL,1UH-S
L102	87-003-383-010		COIL,1UH-S
L201	87-003-383-010		COIL,1UH-S
L202	87-003-383-010		COIL,1UH-S
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85K BIAS
L801	87-003-383-010		COIL,1UH-S
R20	87-A00-261-080		RES,M/F 0.56-1W
R143	87-A00-440-080		RES,M/F 220-1/2W
R144	87-A00-440-080		RES,M/F 220-1/2W
R145	87-A00-440-080		RES,M/F 220-1/2W
R146	87-A00-440-080		RES,M/F 220-1/2W
R807	87-022-214-080		C-RES S100K-1/10WF
SFR351	87-024-356-080		SFR,47K DIA6 H
SFR352	87-024-356-080		SFR,47K DIA6 H
WH001	87-A90-510-010		HLDR,WIRE 2.5-9P

FRONT C.B

C101	87-A10-189-040		CAP,E 220-10 M
C103	87-010-197-080		C-CAP,S 0.01-25 K B
C105	87-010-316-080		C-CAP,S 33P-50 CH
C106	87-010-157-080		C-CAP,S 18P-50 J SL
C107	87-012-157-080		C-CAP,S 330P-50 CH
C108	87-010-405-040		CAP,E 10-50
C110	87-010-183-080		C-CAP,S 2700P-50 K B
C111	87-010-213-080		C-CAP,S 0.015-25 K B
C112	87-010-196-080		C-CAP,S 0.1-25 Z F
C113	87-A10-189-040		CAP,E 220-10
C114	87-010-196-080		C-CAP,S 0.1-25 Z F
C115	87-010-198-080		C-CAP,S 0.022-25 K B
C116	87-010-493-080		CAP,E 0.47-50 M 5L
C117	87-010-498-040		CAP,E 10-16 GAS
C118	87-012-369-080		C-CAP,S 0.047-50F
C119	87-010-408-040		CAP,E 47-50 SME
C120	87-010-421-040		CAP,E 4.7-50 5L
C121	87-010-421-040		CAP,E 4.7-50 5L
C122	87-010-194-080		C-CAP,S 0.047-25 Z F
C123	87-010-196-080		C-CAP,S 0.1-25 Z F
C124	87-010-196-080		C-CAP,S 0.1-25 Z F
C125	87-010-196-080		C-CAP,S 0.1-25 Z F
C127	87-010-194-080		C-CAP,S 0.047-25 Z F
C128	87-010-301-080		C-CAP,220P-50 J CH
C130	87-010-194-080		C-CAP,S 0.047-25 Z F
C131	87-010-079-040		CAP,E 100-6.3 5L
C201	87-010-196-080		C-CAP,S 0.1-25 Z F
C202	87-010-196-080		C-CAP,S 0.1-25 Z F
C204	87-010-301-080		C-CAP,220P-50 J CH
C206	87-010-301-080		C-CAP,220P-50 J CH
C207	87-010-297-080		C-CAP,100P-50 J CH
C281	87-010-197-080		C-CAP,S 0.01-25 K B
C282	87-010-197-080		C-CAP,S 0.01-25 K B
C283	87-010-182-080		C-CAP,S 2200P-50 K B
C284	87-010-182-080		C-CAP,S 2200P-50 K B
C381	87-010-196-080		C-CAP,S 0.1-25 Z F
C382	87-012-158-080		C-CAP,S 390P-50 CH
C383	87-010-196-080		C-CAP,S 0.1-25 Z F
C384	87-010-196-080		C-CAP,S 0.1-25 Z F
C385	87-010-196-080		C-CAP,S 0.1-25 Z F
C386	87-010-196-080		C-CAP,S 0.1-25 Z F
C387	87-010-196-080		C-CAP,S 0.1-25 Z F
C388	87-010-405-040		CAP,E 10-50
C389	87-010-405-040		CAP,E 10-50 M
C601	87-010-112-080		CAP, ELECT 100-16V
C602	87-010-320-080		C-CAP,S 68P-50 J CH
C603	87-010-546-040		CAP,E 0.33-50
C607	87-010-405-040		CAP,E 10-50
C608	87-010-186-080		C-CAP,S 4700P-50 K B
C610	87-010-196-080		C-CAP,S 0.1-25 Z F
C611	87-010-178-080		C-CAP,S 1000P-50 K B
C938	87-012-145-080		C-CAP,S 270P-50 J CH
C941	87-012-145-080		C-CAP,S 270P-50 J CH
C942	87-012-145-080		C-CAP,S 270P-50 J CH
C943	87-012-145-080		C-CAP,S 270P-50 J CH
C944	87-012-145-080		C-CAP,S 270P-50 J CH
C945	87-012-145-080		C-CAP,S 270P-50 J CH
C946	87-012-145-080		C-CAP,S 270P-50 J CH
C947	87-012-145-080		C-CAP,S 270P-50 J CH
C948	87-012-145-080		C-CAP,S 270P-50 J CH
C949	87-012-145-080		C-CAP,S 270P-50 J CH
C950	87-012-145-080		C-CAP,S 270P-50 J CH
C951	87-012-145-080		C-CAP,S 270P-50 J CH
C952	87-012-145-080		C-CAP,S 270P-50 J CH
CN101	87-099-720-010		CONN,30P TYK-B(P)
CN102	87-099-031-010		CONN,14P 6216 H
CN104	87-099-017-010		CONN, 15P 6216 V
CN301	87-A60-156-010		CONN,8P H FE
FB601	87-A50-190-080		C-COIL,S BLM21A102S
FL101	8Z-MA2-605-010		FL,BJ683GK
L101	87-A50-333-010		COIL,OSC 9.43MHZ
LED201	87-A40-317-080		LED,SLR-342VCT31 RED
LED202	87-A40-317-080		LED,SLR-342VCT31 RED
LED203	87-A40-317-080		LED,SLR-342VCT31 RED
LED204	87-A40-317-080		LED,SLR-342VCT31 RED
LED205	87-A40-317-080		LED,SLR-342VCT31 RED
LED206	87-A40-496-040		LED,SLR-342MCT31 GRN
LED207	87-A40-496-040		LED,SLR-342MCT31 GRN
LED208	87-A40-496-040		LED,SLR-342MCT31 GRN
LED209	87-A40-496-040		LED,SLR-342MCT31 GRN
LED210	87-A40-496-040		LED,SLR-342MCT31 GRN
LED211	87-A40-496-040		LED,SLR-342MCT31 GRN
LED212	87-A40-496-040		LED,SLR-342MCT31 GRN
LED213	87-A40-496-040		LED,SLR-342MCT31 GRN
LED214	87-A40-496-040		LED,SLR-342MCT31 GRN
LED215	87-A40-496-040		LED,SLR-342MCT31 GRN
LED216	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED217	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED218	87-A40-619-040		LED,SLR-56PT-T31-W GRN

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
LED219	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED220	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED221	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED233	87-070-270-010		LED,SEL1510CM2 LF34
LED234	87-070-270-010		LED,SEL1510CM2 LF34
LED235	87-070-270-010		LED,SEL1510CM2 LF34
LED236	87-070-270-010		LED,SEL1510CM2 LF34
LED237	87-070-300-010		LED,SEL1250SM LF34
LED238	87-070-300-010		LED,SEL1250SM LF34
LED240	87-A40-317-080		LED,SLR-342VCT31 RED
LED241	87-A40-317-080		LED,SLR-342VCT31 RED
LED242	87-A40-317-080		LED,SLR-342VCT31 RED
LED243	87-A40-317-080		LED,SLR-342VCT31 RED
LED246	87-A40-317-080		LED,SLR-342VCT31 RED
LED248	87-A40-317-080		LED,SLR-342VCT31 RED
LED250	87-A40-317-080		LED,SLR-342VCT31 RED
LED251	87-A40-317-080		LED,SLR-342VCT31 RED
LED254	87-A40-317-080		LED,SLR-342VCT31 RED
LED256	87-A40-317-080		LED,SLR-342VCT31 RED
LED257	87-A40-317-080		LED,SLR-342VCT31 RED
LED258	87-A40-317-080		LED,SLR-342VCT31 RED
LED259	87-A40-317-080		LED,SLR-342VCT31 RED
LED260	87-A40-317-080		LED,SLR-342VCT31 RED
LED261	87-A40-317-080		LED,SLR-342VCT31 RED
LED262	87-A40-317-080		LED,SLR-342VCT31 RED
LED263	87-A40-496-040		LED,SLR-342MCT31 GRN
LED264	87-A40-496-040		LED,SLR-342MCT31 GRN
LED265	87-A40-496-040		LED,SLR-342MCT31 GRN
LED281	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED282	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED283	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED284	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED285	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED286	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED287	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED288	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED289	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED290	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED291	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED292	87-A40-619-040		LED,SLR-56PT-T31-W GRN
LED293	87-A40-317-080		LED,SLR-342VCT31 RED
⚠ PR201	87-A90-393-080		PROTECTOR,0.5A 491SERISE 60V
R301	87-022-355-080		C-RES,S10K-1/10W F
R321	87-022-355-080		C-RES,S10K-1/10W F
R341	87-022-355-080		C-RES,S10K-1/10W F
S101	87-A90-471-010		SW,RTRY EC16B24304-25
S102	87-A90-982-010		SW,RTRY REO121-30
S301	87-A90-095-080		SW,TACT EVQ11G04M
S302	87-A90-095-080		SW,TACT EVQ11G04M
S303	87-A90-095-080		SW,TACT EVQ11G04M
S304	87-A90-095-080		SW,TACT EVQ11G04M
S305	87-A90-095-080		SW,TACT EVQ11G04M
S306	87-A90-095-080		SW,TACT EVQ11G04M
S307	87-A90-095-080		SW,TACT EVQ11G04M
S308	87-A90-095-080		SW,TACT EVQ11G04M
S309	87-A90-095-080		SW,TACT EVQ11G04M
S311	87-A90-095-080		SW,TACT EVQ11G04M
S312	87-A90-095-080		SW,TACT EVQ11G04M
S321	87-A90-095-080		SW,TACT EVQ11G04M
S322	87-A90-095-080		SW,TACT EVQ11G04M
S323	87-A90-095-080		SW,TACT EVQ11G04M
S324	87-A90-095-080		SW,TACT EVQ11G04M
S325	87-A90-095-080		SW,TACT EVQ11G04M
S326	87-A90-095-080		SW,TACT EVQ11G04M
S327	87-A90-095-080		SW,TACT EVQ11G04M
S328	87-A90-095-080		SW,TACT EVQ11G04M
S329	87-A90-095-080		SW,TACT EVQ11G04M
S330	87-A90-095-080		SW,TACT EVQ11G04M
S332	87-A90-095-080		SW,TACT EVQ11G04M
S333	87-A90-095-080		SW,TACT EVQ11G04M
S334	87-A90-095-080		SW,TACT EVQ11G04M
S335	87-A90-095-080		SW,TACT EVQ11G04M
S341	87-A90-095-080		SW,TACT EVQ11G04M
S342	87-A90-095-080		SW,TACT EVQ11G04M
S343	87-A90-095-080		SW,TACT EVQ11G04M
S344	87-A90-095-080		SW,TACT EVQ11G04M
S346	87-A90-095-080		SW,TACT EVQ11G04M
S347	87-A90-095-080		SW,TACT EVQ11G04M
S348	87-A90-095-080		SW,TACT EVQ11G04M
S349	87-A90-095-080		SW,TACT EVQ11G04M
S350	87-A90-095-080		SW,TACT EVQ11G04M
S351	87-A90-095-080		SW,TACT EVQ11G04M
S352	87-A90-095-080		SW,TACT EVQ11G04M
S353	87-A90-095-080		SW,TACT EVQ11G04M
S355	87-A90-095-080		SW,TACT EVQ11G04M
CD KEY C.B			
CN1	87-099-201-010		CONN,8P 6216 H
LED6	87-A40-317-080		LED,SLR-342VCT31 RED
LED7	87-A40-317-080		LED,SLR-342VCT31 RED
LED8	87-A40-317-080		LED,SLR-342VCT31 RED
LED9	87-A40-317-080		LED,SLR-342VCT31 RED
LED10	87-A40-317-080		LED,SLR-342VCT31 RED
S8	87-A90-095-080		SW,TACT EVQ11G04M
S9	87-A90-095-080		SW,TACT EVQ11G04M
S10	87-A90-095-080		SW,TACT EVQ11G04M
S11	87-A90-095-080		SW,TACT EVQ11G04M
S12	87-A90-095-080		SW,TACT EVQ11G04M
S13	87-A90-095-080		SW,TACT EVQ11G04M
S14	87-A90-095-080		SW,TACT EVQ11G04M
MIC C.B			
C609	87-010-196-080		C-CAP,S 0.1-25 Z F
J601	87-099-659-010		JACK,6.3 JY-6314-01130
J602	87-099-659-010		JACK,6.3 JY-6314-01130
AC C.B			
C1	87-010-387-080		CAP,E 470-25 M
C3	87-018-214-080		CAP, TC U 0.1-25 Z F
C5	87-018-214-080		CAP, TC U 0.1-25 Z F
C6	87-018-214-080		CAP, TC U 0.1-25 Z F
⚠ C7	87-A10-479-080		CAP,CER 2200P-50
C8	87-010-399-090		CAP,E 3300-35 M SME
C9	87-010-399-090		CAP,E 3300-35 M SME
C10	87-010-917-090		CAP,E 3300-50 M SMG
C11	87-010-917-090		CAP,E 3300-50 M SMG
C12	87-018-214-080		CAP, TC U 0.1-25 Z F
C13	87-018-214-080		CAP, TC U 0.1-25 Z F
C14	87-018-214-080		CAP, TC U 0.1-25 Z F
C15	87-018-214-080		CAP, TC U 0.1-25 Z F
C16	87-018-214-080		CAP, TC U 0.1-25 Z F
C17	87-018-214-080		CAP, TC U 0.1-25 Z F
C18	87-018-214-080		CAP, TC U 0.1-25 Z F
C19	87-018-214-080		CAP, TC U 0.1-25 Z F
C20	87-010-403-080		CAP,E 3.3-50 M
CN1	87-A60-851-010		CONN,9P V VH
CN2	87-099-043-010		CONN,2P V WHT EH
⚠ F1	87-A91-276-080		FUSE,125MA 125V F
⚠ F3	87-026-691-080		FUSE,10A 125V 251
⚠ F4	87-026-691-080		FUSE,10A 125V 251
⚠ PT1	8Z-MAP-610-010		PT,ZMA-P U
⚠ PT2	8Z-NF8-661-010		PT,SUB ZNF-8 (U)
⚠ RY2	87-A90-976-010		RELAY,AC12V
⚠ T1	87-A60-317-010		TERMINAL,1P MSC
⚠ T2	87-A60-317-010		TERMINAL,1P MSC
DECK C.B			

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CON502	87-099-756-010		CONN,15P 9604S F
SFR1	87-024-581-010		SFR,3.3K DIA 6H
SOL1	82-ZM1-626-010		SOL ASSY,27K
SOL2	82-ZM1-626-010		SOL ASSY,27K
SW1	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW2	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW3	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW4	87-036-110-010		SW,MICRO SPPB62
SW5	87-036-110-010		SW,MICRO SPPB62
SW6	87-036-110-010		SW,MICRO SPPB62
SW8	87-A90-248-010		SW,MICRO ESE11SH2CXQ
SW9	87-A90-248-010		SW,MICRO ESE11SH2CXQ
W1	82-ZM3-601-010		RBN-CORD,4P-75
HEAD-1 C.B			
	85-ZM3-601-010		PWB,FLEX I
HEAD-2 C.B			
	85-ZM3-601-010		PWB,FLEX I
PRO C.B			
C203	87-010-546-080		CAP, ELECT 0.33-50V
C204	87-010-546-080		CAP, ELECT 0.33-50V
C207	87-010-403-080		CAP, ELECT 3.3-50V
C208	87-010-403-080		CAP, ELECT 3.3-50V
C209	87-010-322-080		C-CAP,S 100P-50 J CH
C210	87-010-322-080		C-CAP,S 100P-50 J CH
C211	87-010-260-080		CAP, ELECT 47-25V
C212	87-010-260-080		CAP, ELECT 47-25V
C213	87-A10-946-080		C-CAP,S 220P-100 J CH
C214	87-A10-946-080		C-CAP,S 220P-100 J CH
C217	87-010-186-080		C-CAP,S 4700P-50 K B
C218	87-010-186-080		C-CAP,S 4700P-50 K B
C219	87-012-368-080		C-CAP,S 0.1-50 F
C220	87-012-368-080		C-CAP,S 0.1-50 F
C221	87-010-178-080		CHIP CAP 1000P
C222	87-010-178-080		CHIP CAP 1000P
C251	87-010-235-080		CAP,E 470-16 M
C299	87-010-197-080		CAP, CHIP 0.01 DM
C303	87-010-404-080		CAP, ELECT 4.7-50V
C304	87-010-404-080		CAP, ELECT 4.7-50V
C305	87-010-220-080		C-CAP,S 0.018-25 K B
C306	87-010-220-080		C-CAP,S 0.018-25 K B
C307	87-010-408-080		CAP, ELECT 47-50V
C308	87-010-408-080		CAP, ELECT 47-50V
C309	87-010-322-080		C-CAP,S 100P-50 J CH
C310	87-010-322-080		C-CAP,S 100P-50 J CH
C311	87-A10-946-080		C-CAP,S 220P-100 J CH
C312	87-A10-946-080		C-CAP,S 220P-100 J CH
C313	87-010-260-080		CAP, ELECT 47-25V
C314	87-010-260-080		CAP, ELECT 47-25V
C319	87-012-368-080		C-CAP,S 0.1-50 F
C320	87-012-368-080		C-CAP,S 0.1-50 F
C321	87-010-186-080		CAP,CHIP 4700P
C322	87-010-186-080		CAP,CHIP 4700P
C351	87-010-183-010		C-CAP,S 2700P-50 K B
C352	87-010-183-010		C-CAP,S 2700P-50 K B
C403	87-010-404-080		CAP, ELECT 4.7-50V
C405	87-010-181-080		C-CAP,S 1800P-50 K B
C407	87-010-405-080		CAP, ELECT 10-50
C409	87-010-322-080		C-CAP,S 100P-50 J CH
C411	87-A10-946-080		C-CAP,S 220P-100 J CH
C413	87-010-260-080		CAP, ELECT 47-25V
C419	87-012-368-080		C-CAP,S 0.1-50 F
C421	87-010-186-080		C-CAP,S 4700P-50 K B
C451	87-010-183-010		C-CAP,S 2700P-50 K B

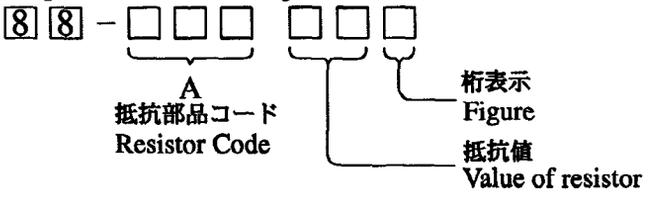
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C501	87-016-299-080		CAP,E 10-100 SME
C502	87-012-368-080		C-CAP,S 0.1-50 F
C503	87-016-299-080		CAP,E 10-100 SME
CN101	87-A60-727-010		CONN,13P JL-R
CN102	87-A60-727-010		CONN,13P JL-R
CN104	87-A60-937-010		CONN, 2P V VH
R225	87-A00-262-080		RES,M/F 0.15-2W J
R226	87-A00-262-080		RES,M/F 0.15-2W J
R227	87-A00-262-080		RES,M/F 0.15-2W J
R228	87-A00-262-080		RES,M/F 0.15-2W J
R239	87-A00-262-080		RES,M/F 0.15-2W J
R242	87-A00-262-080		RES,M/F 0.15-2W J
R325	87-A00-258-080		RES,M/F 0.22-1W J
R326	87-A00-258-080		RES,M/F 0.22-1W J
R327	87-A00-258-080		RES,M/F 0.22-1W J
R328	87-A00-258-080		RES,M/F 0.22-1W J
R340	87-A00-258-080		RES,M/F 0.22-1W J
R427	87-A00-258-080		RES,M/F 0.22-1W J
R429	87-A00-258-080		RES,M/F 0.22-1W J
R441	87-A00-258-080		RES,M/F 0.22-1W J
TH201	87-A91-042-080		C-THMS,100K 55001
TH202	87-A91-042-080		C-THMS,100K 55001
TH301	87-A91-042-080		C-THMS,100K 55001
TH302	87-A91-042-080		C-THMS,100K 55001
TH401	87-A91-042-080		C-THMS,100K 55001
TUNER C.B			
C701	87-010-381-080		CAP, ELECT 330-16V
C702	87-010-404-080		CAP, ELECT 4.7-50V
C703	87-012-286-080		CAP, U 0.01-25
C704	87-012-286-080		CAP, U 0.01-25
C705	87-A10-592-080		C-CAP,S 0.015-50 J B
C706	87-A10-592-080		C-CAP,S 0.015-50 J B
C709	87-012-195-080		C-CAP,U 100P-50CH
C711	87-010-260-080		CAP, ELECT 47-25V
C712	87-010-831-080		C-CAP,U,0.1-16F
C714	87-012-286-080		CAP, U 0.01-25
C717	87-012-286-080		CAP, U 0.01-25
C718	87-012-179-080		C-CAP,U 20P-50 CH
C719	87-012-286-080		CAP, U 0.01-25
C720	87-012-195-080		C-CAP,U 100P-50CH
C721	87-012-176-080		CAP 15P
C722	87-012-176-080		CAP 15P
C723	87-012-274-080		CHIP CAP,U 1000P-50B
C725	87-012-274-080		CHIP CAP,U 1000P-50B
C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C728	87-010-248-080		CAP, ELECT 220-10V
C729	87-012-274-080		CHIP CAP,U 1000P-50B
C731	87-012-286-080		CAP, U 0.01-25
C733	87-010-987-080		C-CAP,S 1500P-50 CH
C734	87-010-987-080		C-CAP,S 1500P-50 CH
C735	87-010-987-080		C-CAP,S 1500P-50 CH
C736	87-010-987-080		C-CAP,S 1500P-50 CH
C737	87-A10-592-080		C-CAP,S 0.015-50 J B
C738	87-A10-592-080		C-CAP,S 0.015-50 J B
C751	87-012-365-080		C-CAP,S 0.027-25VBK
C752	87-012-365-080		C-CAP,S 0.027-25VBK
C756	87-012-286-080		CAP, U 0.01-25
C757	87-012-188-080		C-CAP,U 47P-50 CH
C758	87-012-167-080		C-CAP,U 5P-50 CH
C763	87-010-829-080		CAP, U 0.047-16
C764	87-012-337-080		C-CAP,U 56P-50 CH
C765	87-012-286-080		CAP, U 0.01-25
C768	87-012-286-080		CAP, U 0.01-25
C769	87-010-260-080		CAP, ELECT 47-25V
C770	87-010-829-080		CAP, U 0.047-16
C771	87-010-383-080		CAP, ELECT 33-25V
C772	87-010-829-080		CAP, U 0.047-16

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C773	87-010-196-080		CHIP CAPACITOR,0.1-25
C774	87-010-263-080		CAP, ELECT 100-10V
C775	87-010-404-080		CAP, ELECT 4.7-50V
C776	87-012-286-080		CAP, U 0.01-25
C777	87-010-400-080		CAP, ELECT 0.47-50V
C778	87-010-401-080		CAP, ELECT 1-50V
C779	87-010-401-080		CAP, ELECT 1-50V
C780	87-010-196-080		CHIP CAPACITOR,0.1-25
C781	87-010-405-080		CAP, ELECT 10-50V
C782	87-010-405-080		CAP, ELECT 10-50V
C783	87-012-286-080		CAP, U 0.01-25
C784	87-012-286-080		CAP, U 0.01-25
C785	87-010-401-080		CAP, ELECT 1-50V
C786	87-010-401-080		CAP, ELECT 1-50V
C789	87-012-275-080		C-CAP,U 1200P-50 B
C790	87-012-275-080		C-CAP,U 1200P-50 B
C791	87-010-405-080		CAP, ELECT 10-50V
C793	87-012-273-080		C-CAP,U 820P-50 B
C794	87-010-406-080		CAP, ELECT 22-50
C795	87-010-596-080		CAP, S 0.047-16
C796	87-010-403-080		CAP, ELECT 3.3-50V
C799	87-010-829-080		CAP, U 0.047-16
C812	87-012-286-080		CAP, U 0.01-25
C820	87-010-260-080		CAP, ELECT 47-25V
C821	87-012-286-080		CAP, U 0.01-25

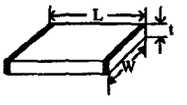
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C822	87-012-286-080		CAP, U 0.01-25
C823	87-012-286-080		CAP, U 0.01-25
C828	87-010-196-080		CHIP CAPACITOR,0.1-25
C829	87-010-196-080		CHIP CAPACITOR,0.1-25
C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C961	87-012-170-080		C-CAP,U 8P-50 CH
C963	87-010-196-080		CHIP CAPACITOR,0.1-25
CF801	87-008-261-010		FILTER, SFE10.7MA5-A
CF802	87-008-261-010		FILTER, SFE10.7MA5-A
CN701	87-A60-700-010		CONN,13P H GRY TUC-P13X-C1
FFE801	A8-8ZA-190-030		8ZA-1 FEUNM
J801	87-A60-702-010		TERMINAL,ANT 4P CJ-9036
L771	87-A50-266-010		COIL,FM DET-2N(TOK)
L772	87-A90-733-010		FLTR,PCFAZH-450 (TOK)
L981	87-NF4-650-010		COIL,AM PACK 4N(TOK)
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309

Oチップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding

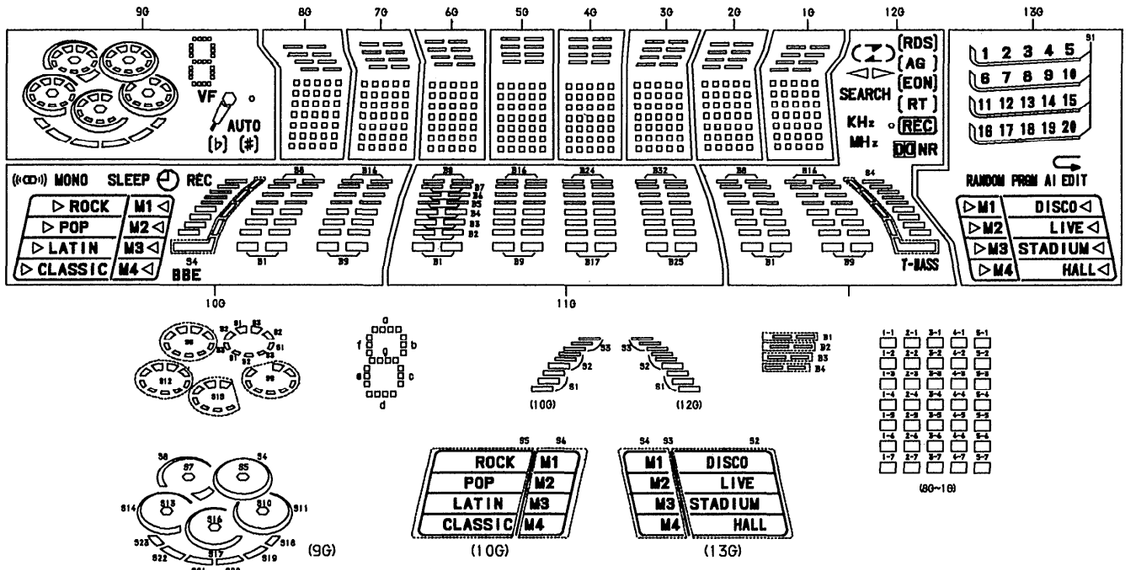


チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	±5%	CJ		1.0	0.5	0.35	104
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

FL (BJ683GK) GRID ASSIGNMENT & ANODE CONNECTION

GRID ASSIGNMENT

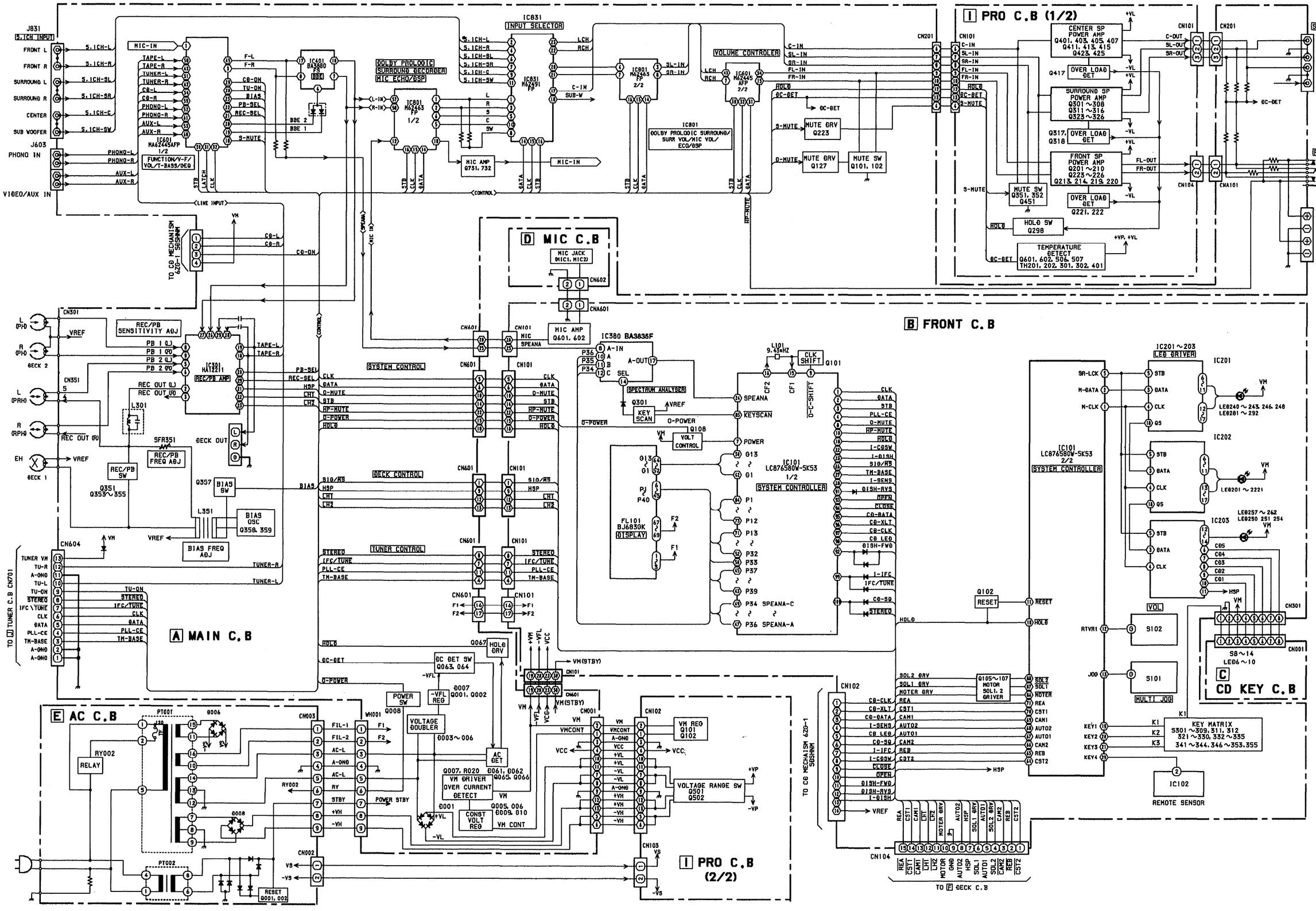


ANODE CONNECTION

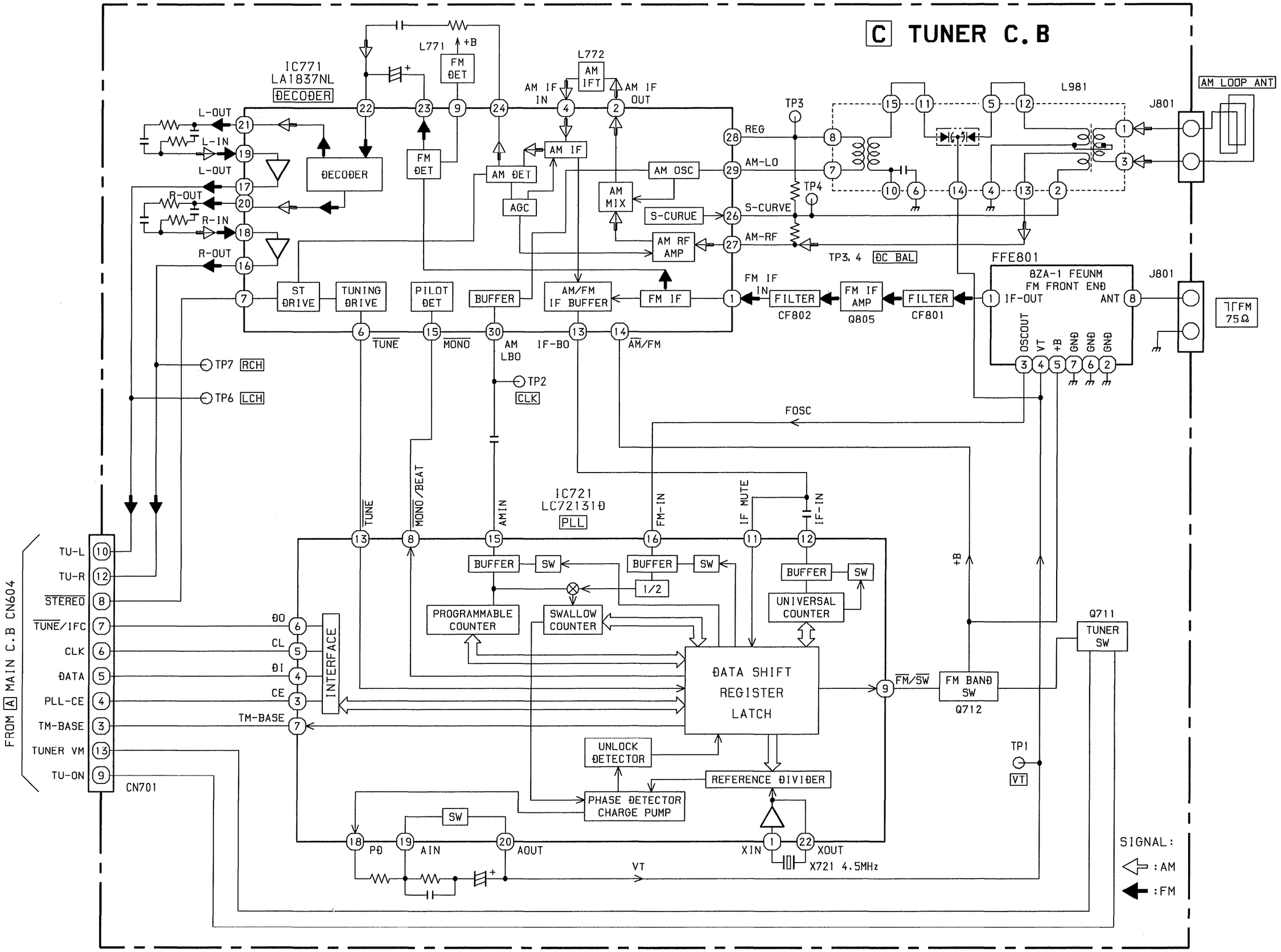
	13G	12G	11G	10G	9G	1G-8G
P1	S1	SEARCH	–	—	–	B4
P2	S3	RDS AG EON	–	—	◯	B3
P3	S2	RT	–	▷ (LATIN)	–	B2
P4	—	—	–	((ᗡᗡ))	S23	B1
P5	—	(RDS)	–	MONO	S22	1-1
P6	◁ (HALL)	(AG)	–	S5	S21	2-1
P7	◁ (STADIUM)	(EON)	–	—	S20	3-1
P8	◁ (LIVE)	(RT)	B1	▷ (CLASSIC)	S19	4-1
P9	◁ (DISCO)	)	B9	▷ (POP)	S18	5-1
P10	S4	B1	B17	B1	S16	1-2
P11	▷ (M4)	B9	B25	B9	S15	2-2
P12	▷ (M3)	Z	B2	▷ (ROCK)	S17	3-2
P13	▷ (M2)	(	B10	S6	S13	4-2
P14	▷ (M1)	B2	B18	B2	S12	5-2
P15	↵	B10	B26	B10	S14	1-3
P16	EDIT	▷	B3	◁ (M4)	S10	2-3
P17	AI	◁	B11	◁ (M3)	S9	3-3
P18	PRGM	B3	B19	B3	S11	4-3
P19	RANDOM	B11	B27	B11	S7	5-3
P20	1	DD NR	B4	◁ (M2)	S6	1-4

	13G	12G	11G	10G	9G	1G-8G
P21	2	REC	B12	◁ (M1)	S8	2-4
P22	3	B4	B20	B4	S5	3-4
P23	4	B12	B28	B12	S2	4-4
P24	5	◯	B5	REC	S3	5-4
P25	6	KHz	B13	◴	S1	1-5
P26	7	B5	B21	B5	S4	2-5
P27	8	B13	B29	B13	d	3-5
P28	9	MHz	B6	SLEEP	e	4-5
P29	10	S4	B14	S4	c	5-5
P30	11	B6	B22	B6	g	1-6
P31	12	B14	B30	B14	f	2-6
P32	13	T-BASS	B7	BBE	b	3-6
P33	14	S1	B15	S1	a	4-6
P34	15	B7	B23	B7	VF	5-6
P35	16	B15	B31	B15	🖉	1-7
P36	17	S2	B8	S2	AUTO	2-7
P37	18	S3	B16	S3	(b)	3-7
P38	19	B8	B24	B8	(#)	4-7
P39	20	B16	B32	B16	♭ #	5-7

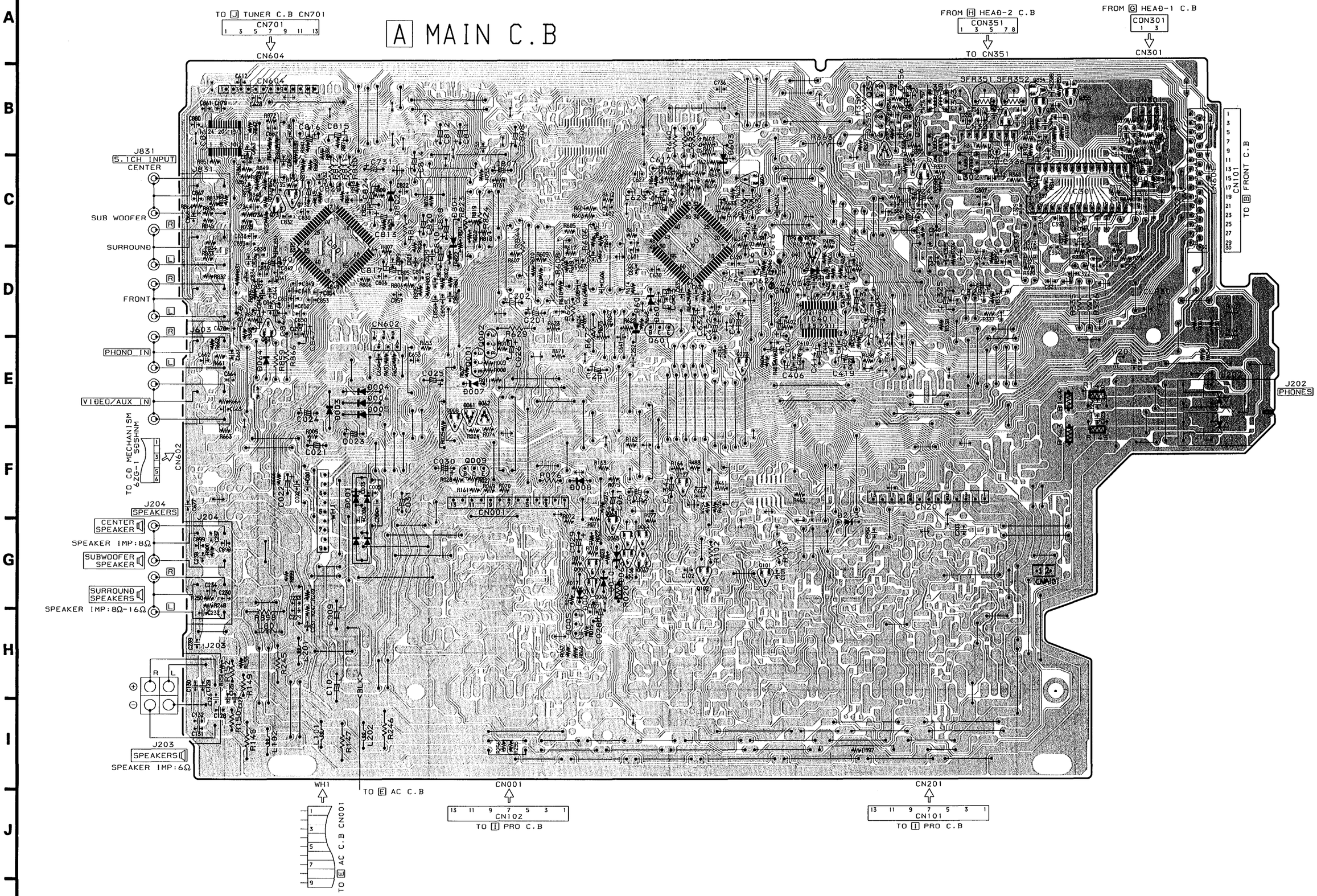
BLOCK DIAGRAM – 1 (MAIN / FRONT)



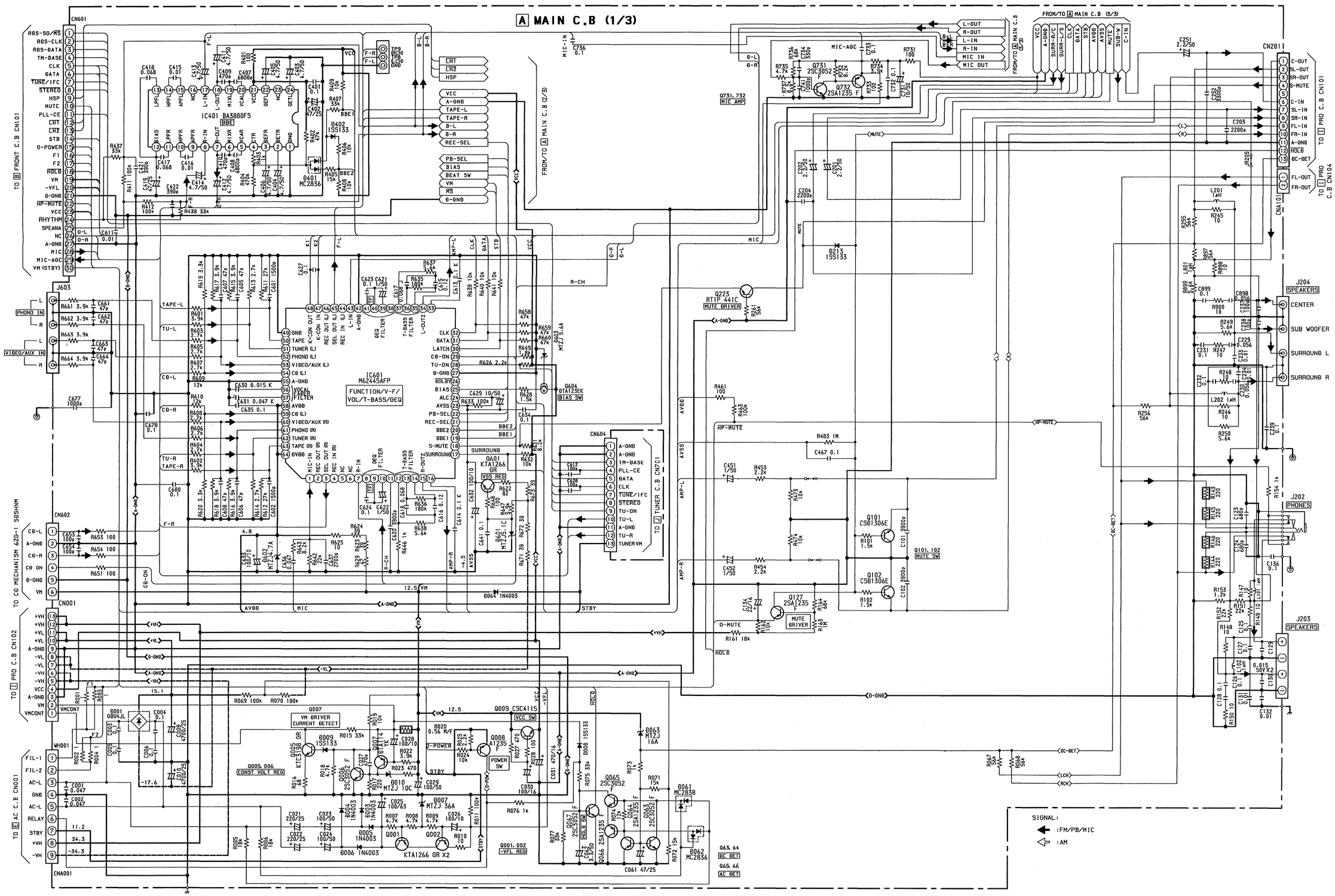
BLOCK DIAGRAM – 2 (TUNER)



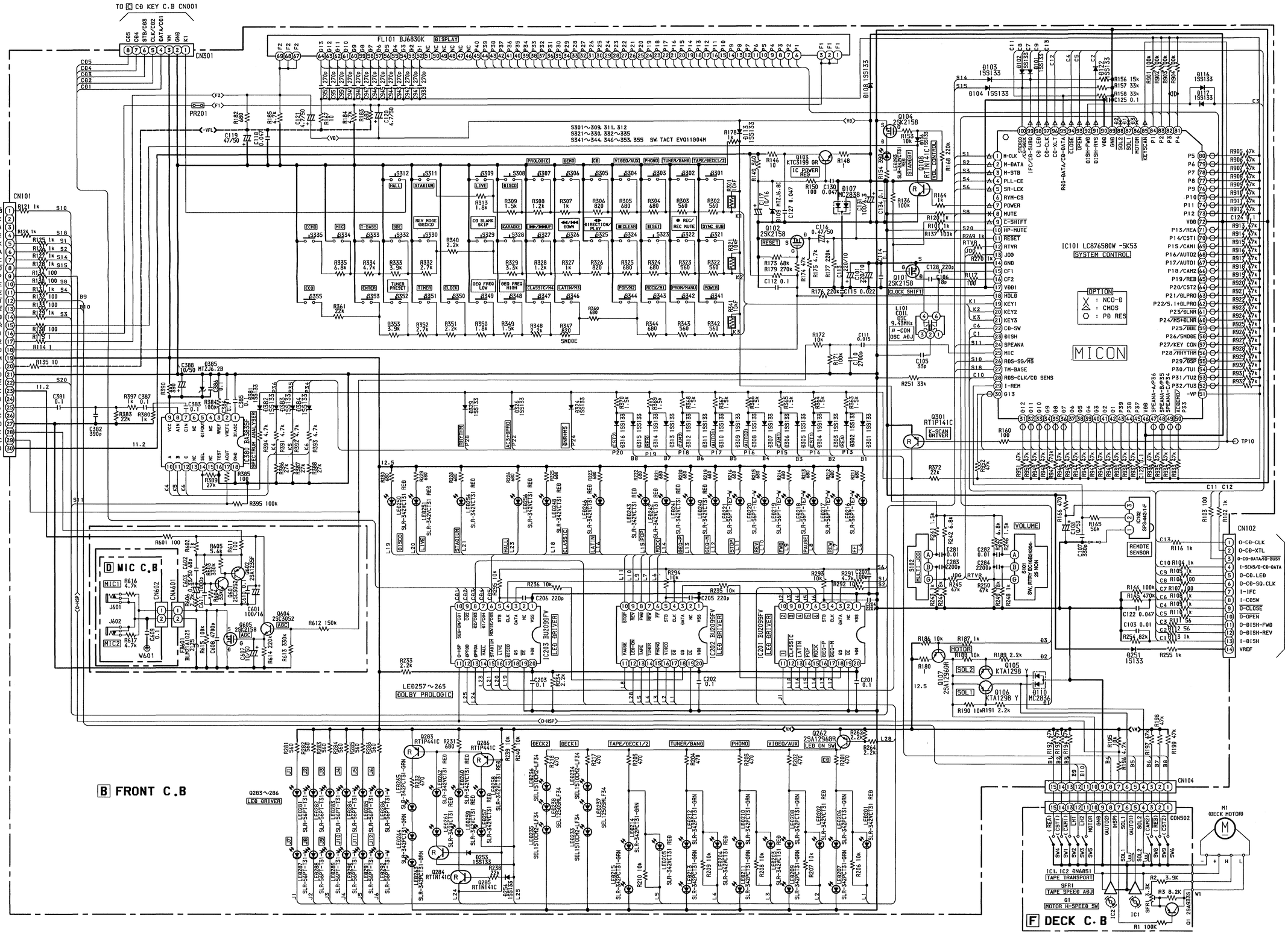
A MAIN C.B

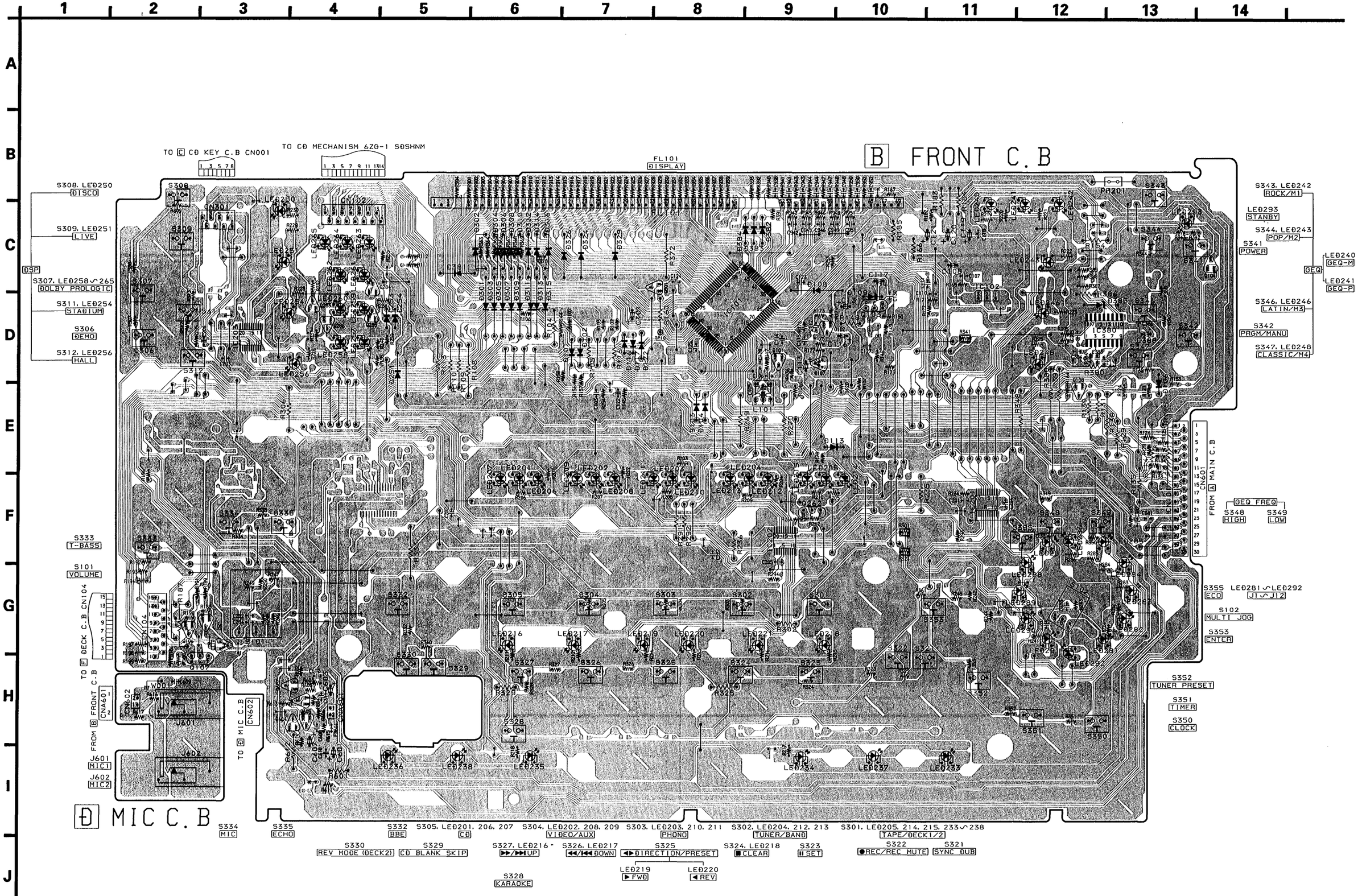

TO J TUNER C.B CN701
CN701
CN604
FROM H HEAD-2 C.B
CON351
TO CN351
FROM G HEAD-1 C.B
CON301
CN301
TO B FRONT C.B
CN101
J831
5.1CH INPUT
CENTER
SUB WOOFER
R
SURROUND
L
R
FRONT
L
R
PHONO IN
L
VIDEO/AUX IN
TO CD MECHANISM
6ZG-1 SDSHNM
CN602
J204
SPEAKERS
CENTER SPEAKER
SPEAKER IMP:8Ω
SUBWOOFER SPEAKER
R
SURROUND SPEAKERS
SPEAKER IMP:8Ω-16Ω
L
J203
R
L
J203
SPEAKERS
SPEAKER IMP:6Ω
J202
PHONES
WH1
TO E AC C.B
TO E AC C.B CN001
CN001
CN102
TO I PRO C.B
CN201
CN101
TO I PRO C.B

SCHEMATIC DIAGRAM – 1 (MAIN 1 / 3)



SCHEMATIC DIAGRAM – 2 (FRONT)



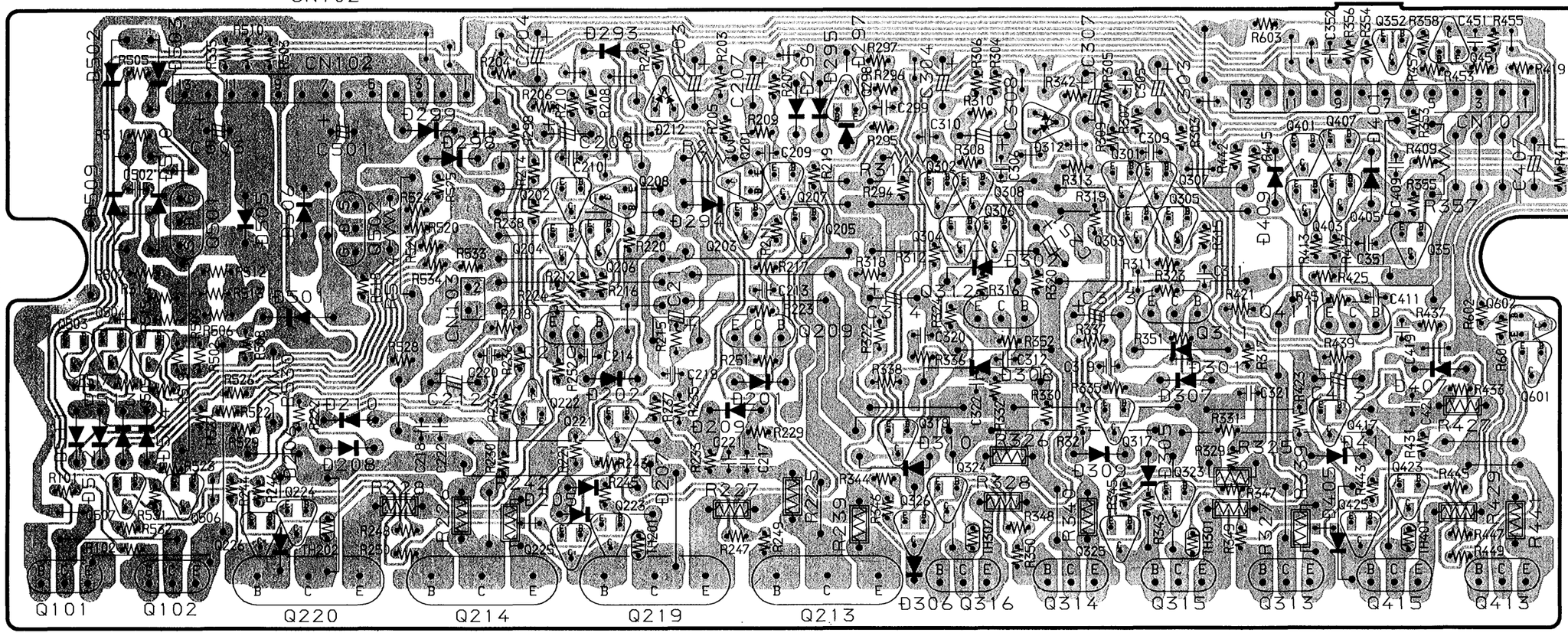

B FRONT C.B
TO C CD KEY C.B CN001
TO CD MECHANISM 6ZG-1 S0SHNM
FL101 DISPLAY
S308. LED250 DISCO
S309. LED251 LIVE
S307. LED258~265 DOLBY PROLOGIC
S311. LED254 STADIUM
S306 DEMO
S312. LED256 HALL
DSP
S343. LED242 ROCK/M1
LED293 STANBY
S344. LED243 POP/M2
S341 POWER
LED240 GEQ-M
GEQ
LED241 GEQ-P
S346. LED246 LATIN/M3
S342 PRGM/MANU
S347. LED248 CLASSIC/M4
FROM A MAIN C.B CN601
GEQ FREQ
S348 HIGH
S349 LOW
S333 T-BASS
S101 VOLUME
TO E DECK C.B CN104
FROM B FRONT C.B CN4601
TO G MIC C.B CN602
J601 MIC1
J602 MIC2
S355 LED281~LED292 JI~J12
ECO
S102 MULTI JOG
S353 ENTER
S352 TUNER PRESET
S351 TIMER
S350 CLOCK
MIC C.B
S334 MIC
S335 ECHO
S332 BBE
S305. LED201. 206. 207 CD
S304. LED202. 208. 209 VIDEO/AUX
S303. LED203. 210. 211 PHONO
S302. LED204. 212. 213 TUNER/BAND
S301. LED205. 214. 215. 233~238 TAPE/DECK1/2
S330 REV MODE (DECK2)
S329 CD BLANK SKIP
S327. LED216 ▶▶/▶▶UP
S326. LED217 ◀◀/I◀◀ DOWN
S325 ◀▶DIRECTION/PRESET
S324. LED218 ■CLEAR
S323 II SET
S322 ●REC/REC MUTE
S321 SYNC DUB
S328 KARAOKE
LED219 ▶FWD
LED220 ◀REV

I PRO C.B

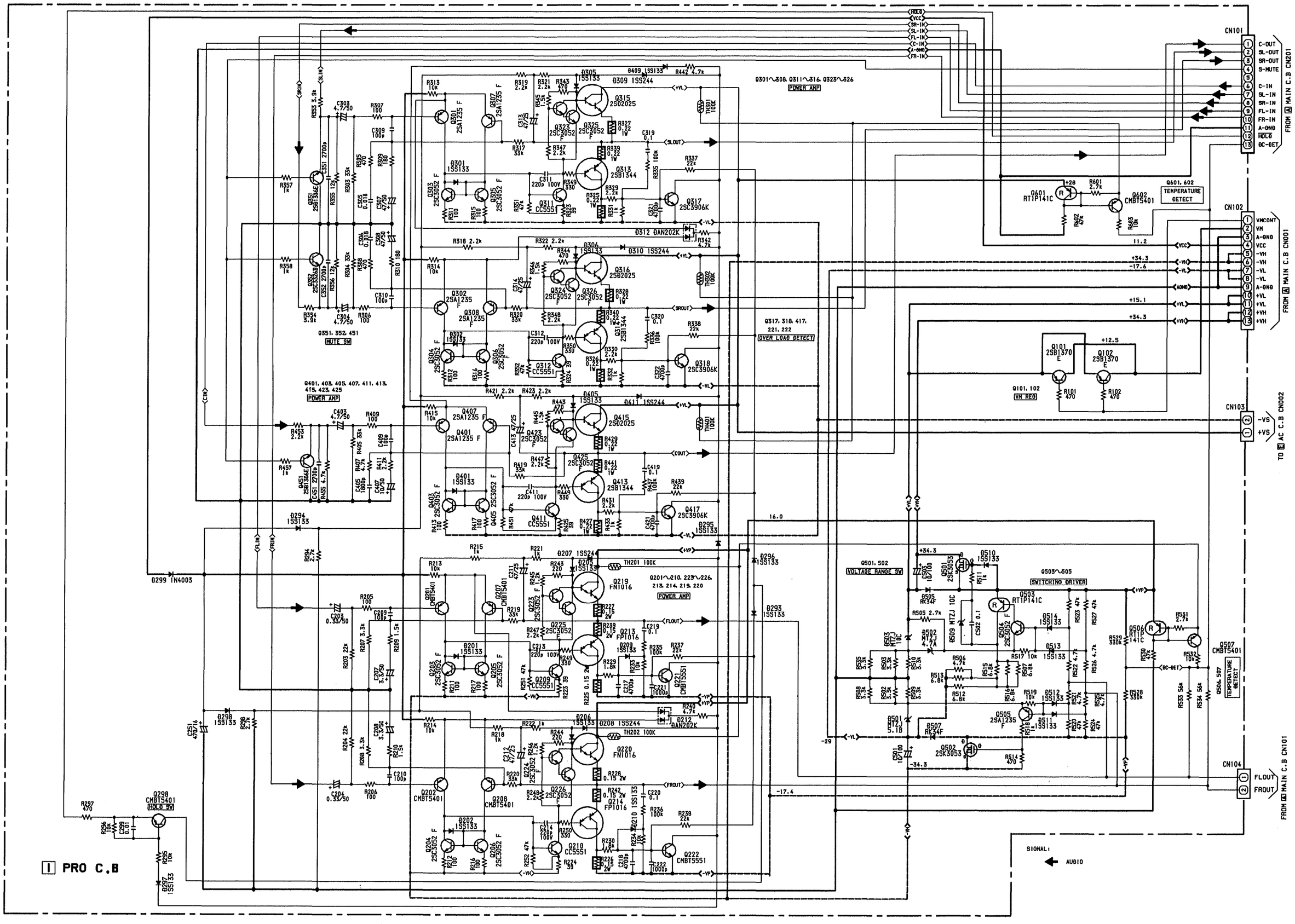
FROM A MAIN C.B
CN001
13 11 9 7 5 3 1
CN102

FROM A MAIN C.B
CN201
13 11 9 7 5 3 1
CN101

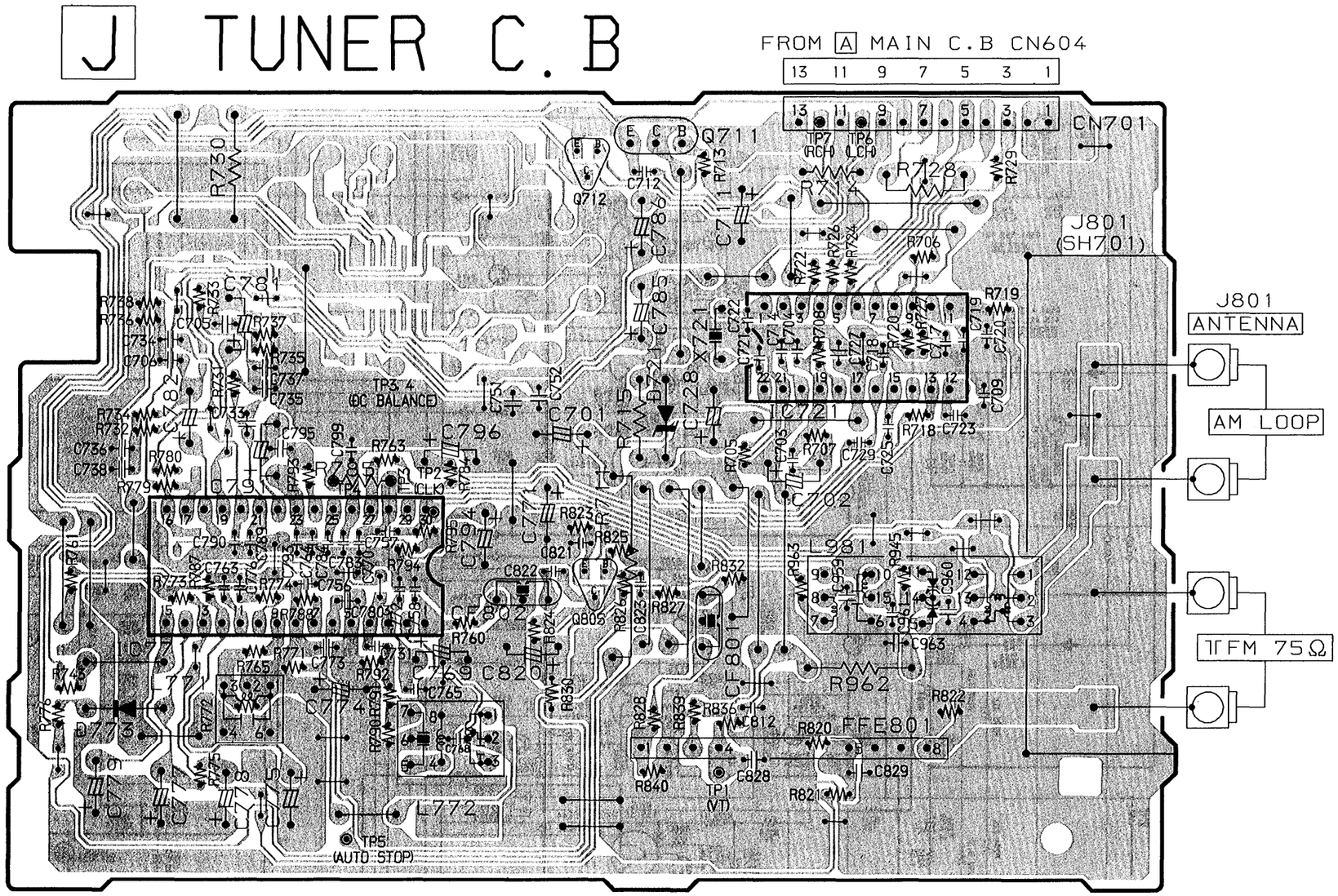
TO E AC C.B
CN002
2 1
CN103



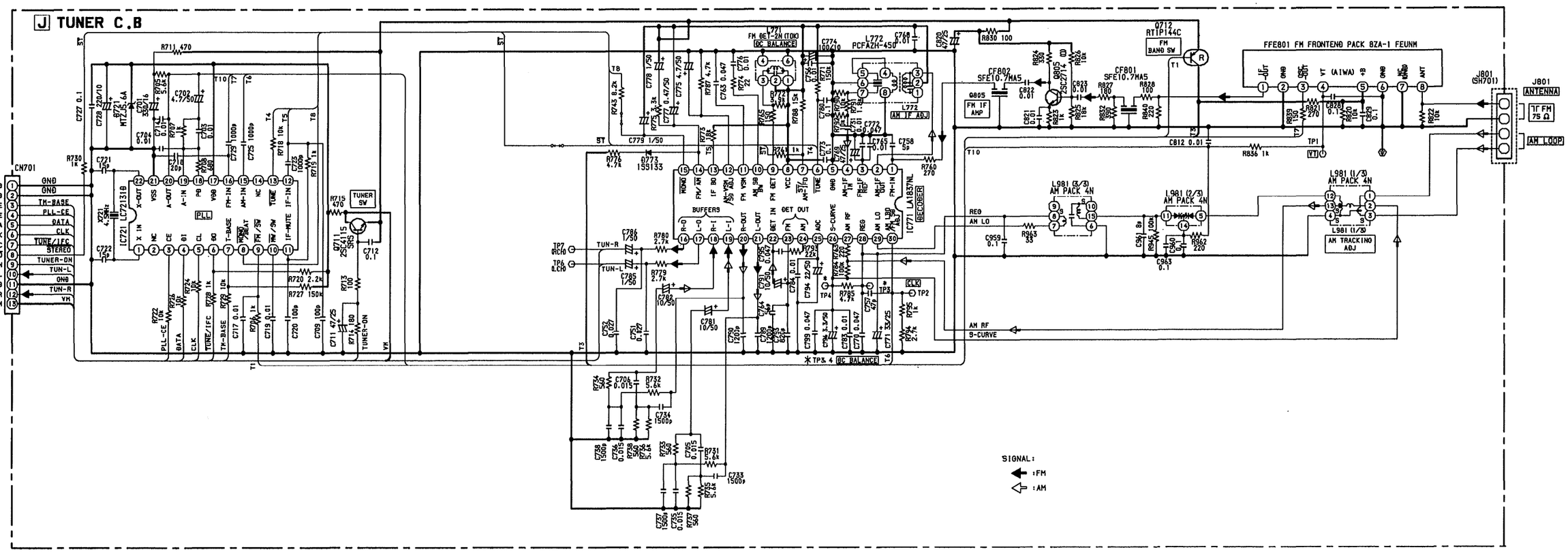
SCHEMATIC DIAGRAM – 3 (PRO)

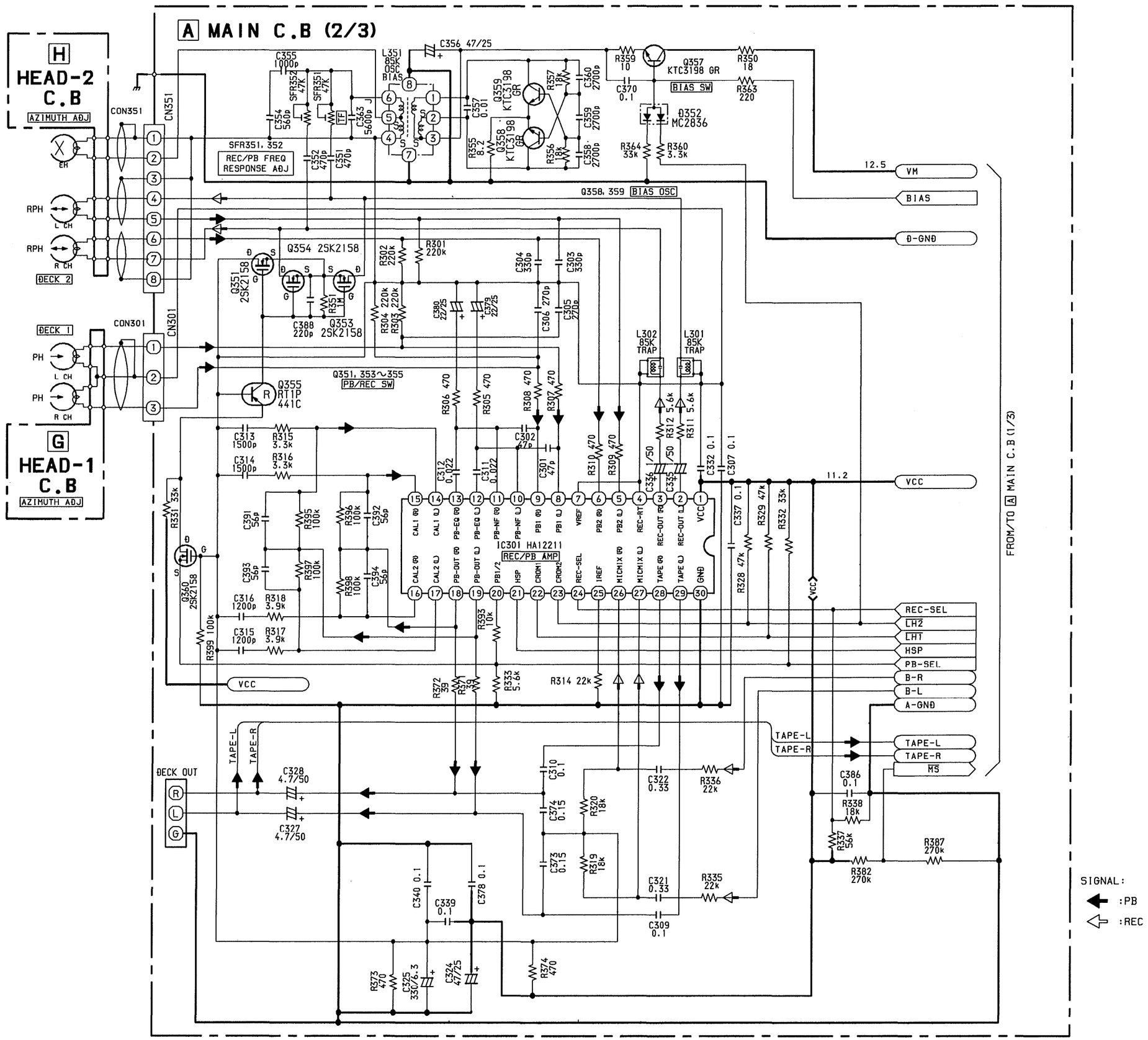


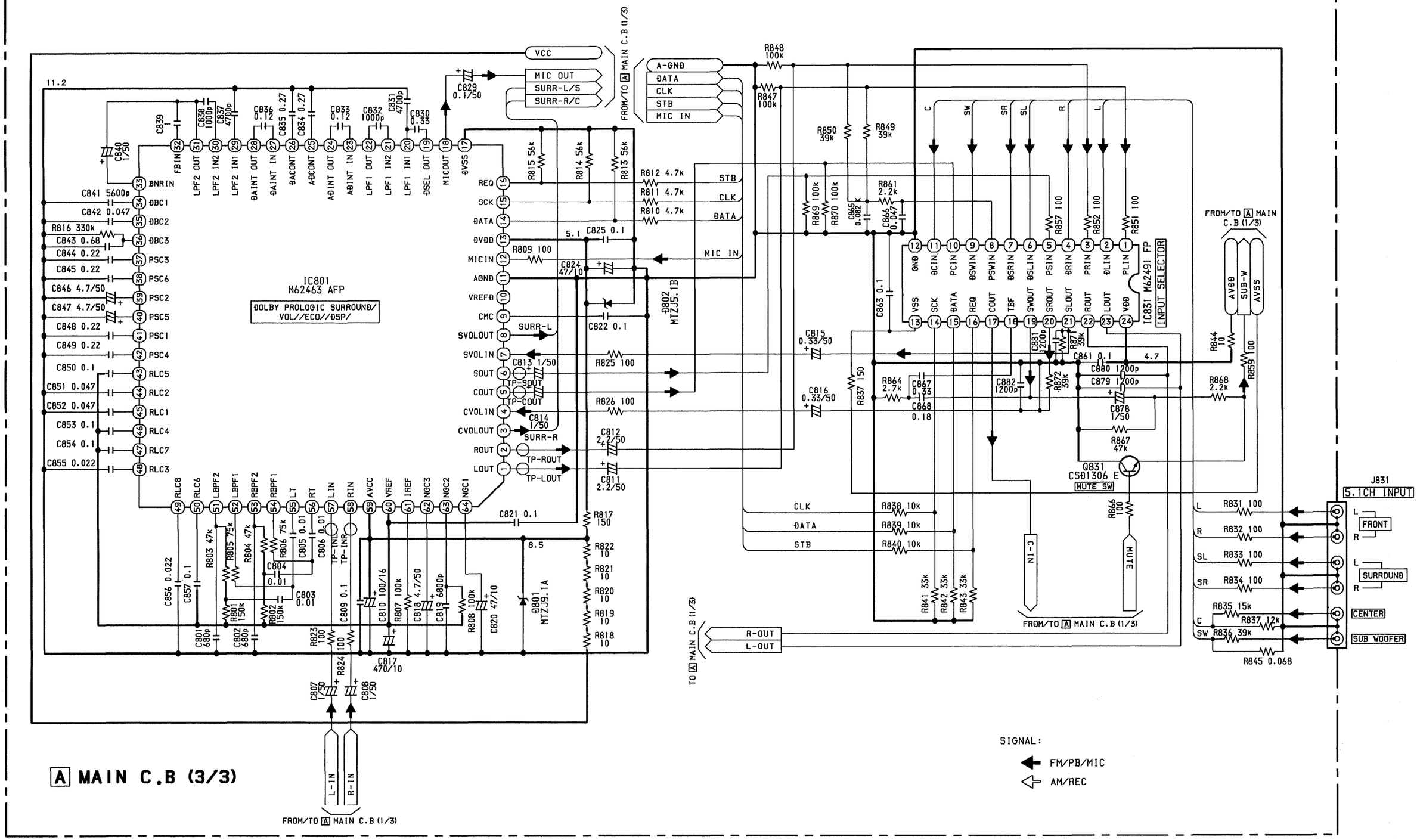
J TUNER C.B


FROM A MAIN C.B CN604
13 11 9 7 5 3 1
CN701
J801
(SH701)
J801
ANTENNA
AM LOOP
TFM 75Ω
TP7 (RCH)
TP6 (LCH)
TP3, 4 (DC BALANCE)
TP2 (CLK)
TP5 (AUTO STOP)
TP1 (VT)
Q711
Q712
Q805
FFE801
L981
L772
C701
C702
C796
C802
C820
R730
R728
R714
R962
R706
R763
R760
R840
R962

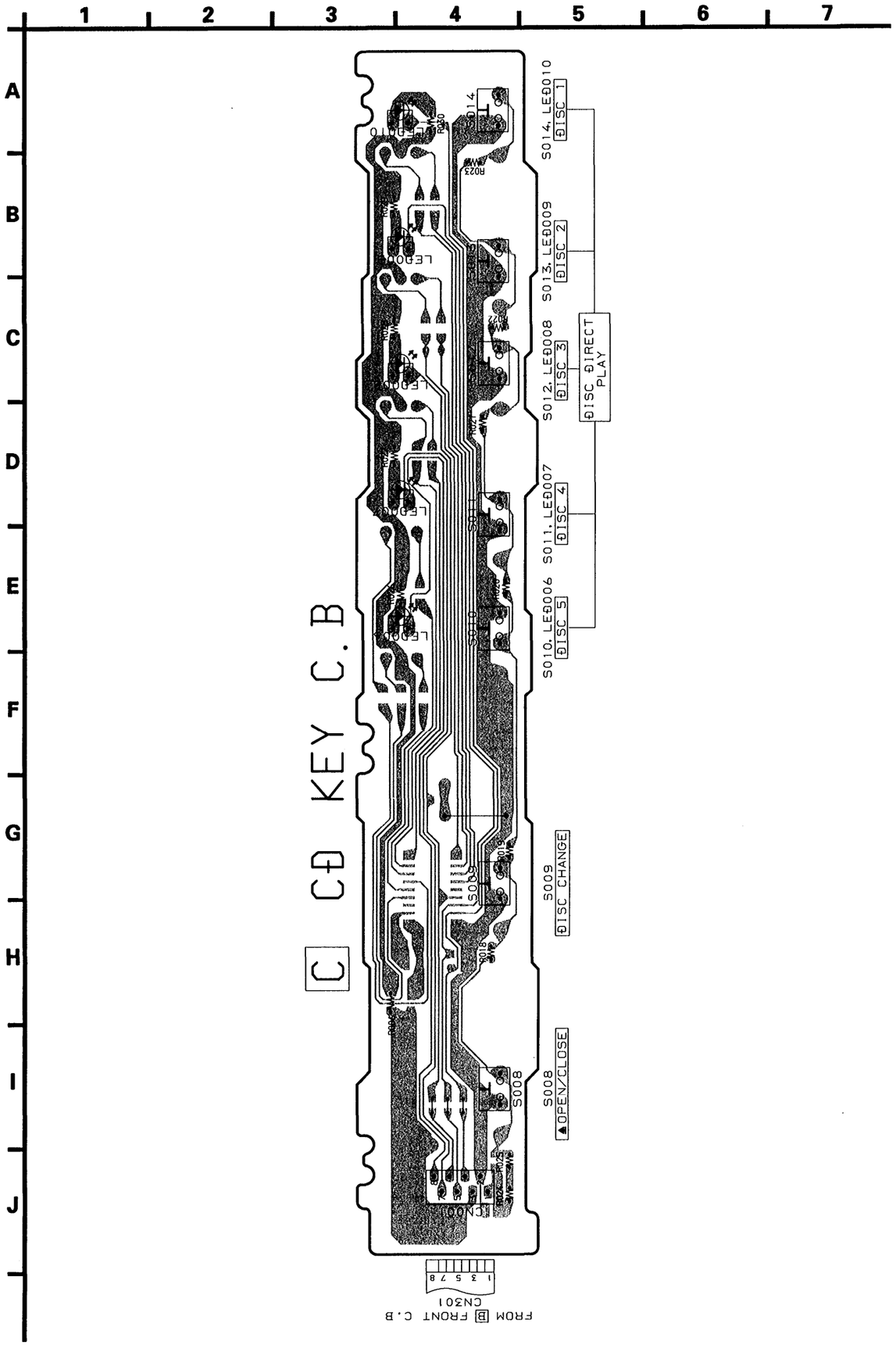
SCHEMATIC DIAGRAM – 4 (TUNER)



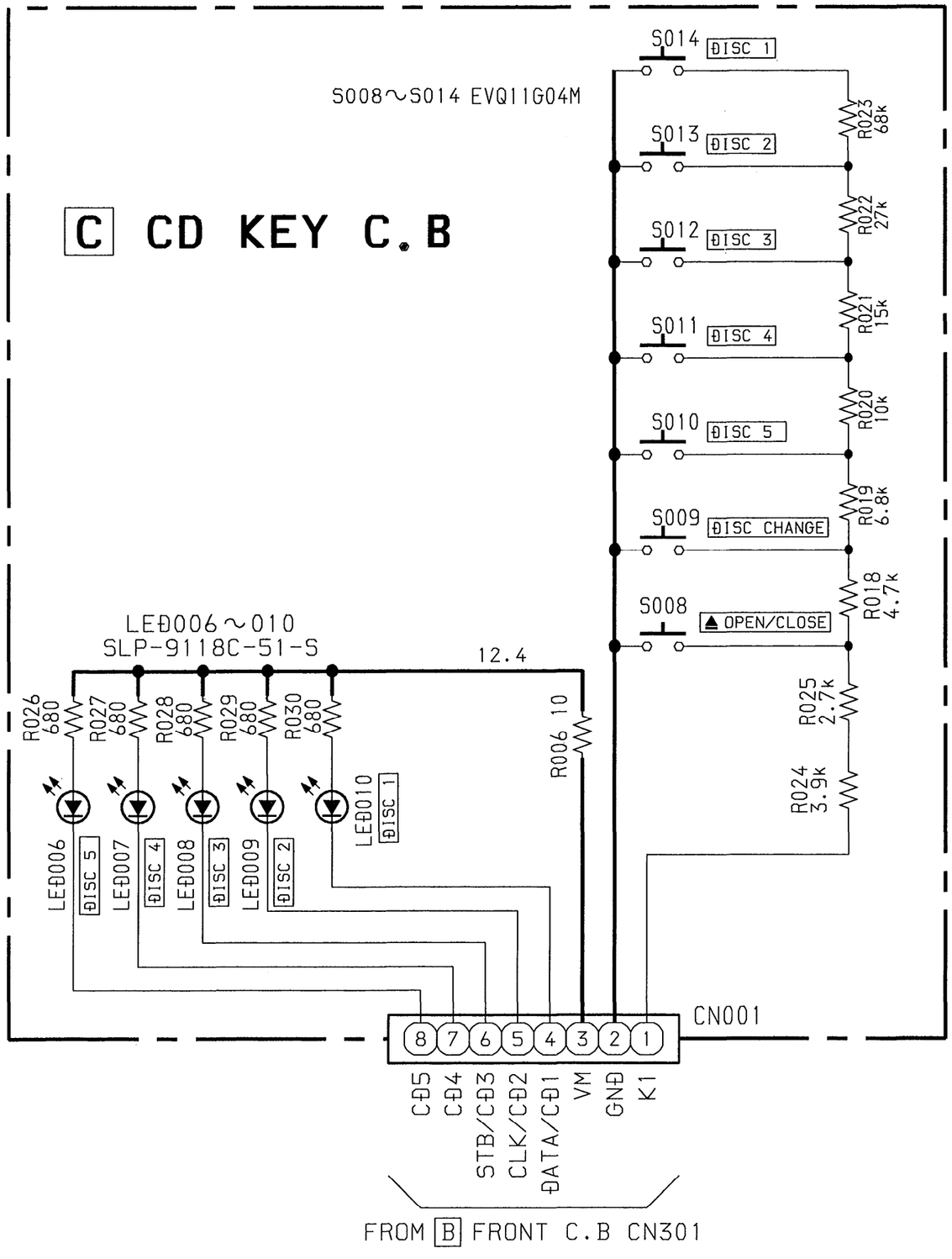

A MAIN C.B (2/3)
H HEAD-2 C.B
AZIMUTH ADJ
G HEAD-1 C.B
AZIMUTH ADJ
DECK 2
DECK 1
CON351
CON301
CN351
CN301
SFR351, 352
REC/PB FREQ RESPONSE ADJ
Q358, 359 BIAS OSC
BIAS SW
Q354 25K2158
Q353 25K2158
Q351 25K2158
Q340 2SK2158
Q355 RT1P 441C
Q351, 353~355 PB/REC SW
Q357 KTC3198 GR
Q359 KTC3198 GR
Q358 KTC3198 GR
Q352 MC2836
L302 85K TRAP
L301 85K TRAP
IC301 HA12211
REC/PB AMP
CAL1 (R)
CAL1 (L)
PB-EQ (R)
PB-EQ (L)
PB-NF (R)
PB-NF (L)
PB1 (R)
PB1 (L)
VREF
PB2 (R)
PB2 (L)
REC-RT
REC-OUT (R)
REC-OUT (L)
VCC
CAL2 (R)
CAL2 (L)
PB-OUT (R)
PB-OUT (L)
PB1/2
HSP
CROM1
CROM2
REC-SEL
IREF
MICMIX (R)
MICMIX (L)
TAPE (R)
TAPE (L)
GND
12.5
VM
BIAS
Ð-GNÐ
VCC
11.2
REC-SEL
LH2
LHT
HSP
PB-SEL
B-R
B-L
A-GNÐ
TAPE-L
TAPE-R
MS
DECK OUT
FROM/TO A MAIN C.B (1/3)
SIGNAL:
:PB
:REC


VCC
MIC OUT
SURR-L/S
SURR-R/C
FROM/TO A MAIN C.B (1/3)
A-GND
DATA
CLK
STB
MIC IN
IC801
M62463 AFP
DOLBY PROLOGIC SURROUND/
VOL//ECO//DSP/
D802
MTZJ5.1B
D801
MTZJ9.1A
IC831 M62491 FP
INPUT SELECTOR
GND DCIN PCIN DSWIN PSWIN DSRIN DSLIN PSIN DRIN PRIN DLIN PLIN
VSS SCK DATA REQ COUT TBF SWOUT SROUT SLOUT ROUT LOUT VDD
C SW SR SL R L
FROM/TO A MAIN C.B (1/3)
AVDD SUB-W AVSS
Q831
CSD1306 E
MUTE SW
J831
5.1CH INPUT
FRONT
SURROUND
CENTER
SUB WOOFER
L-IN
R-IN
R-OUT
L-OUT
C-IN
MUTE
FROM/TO A MAIN C.B (1/3)
TO A MAIN C.B (1/3)
A MAIN C.B (3/3)
SIGNAL:
FM/PB/MIC
AM/REC

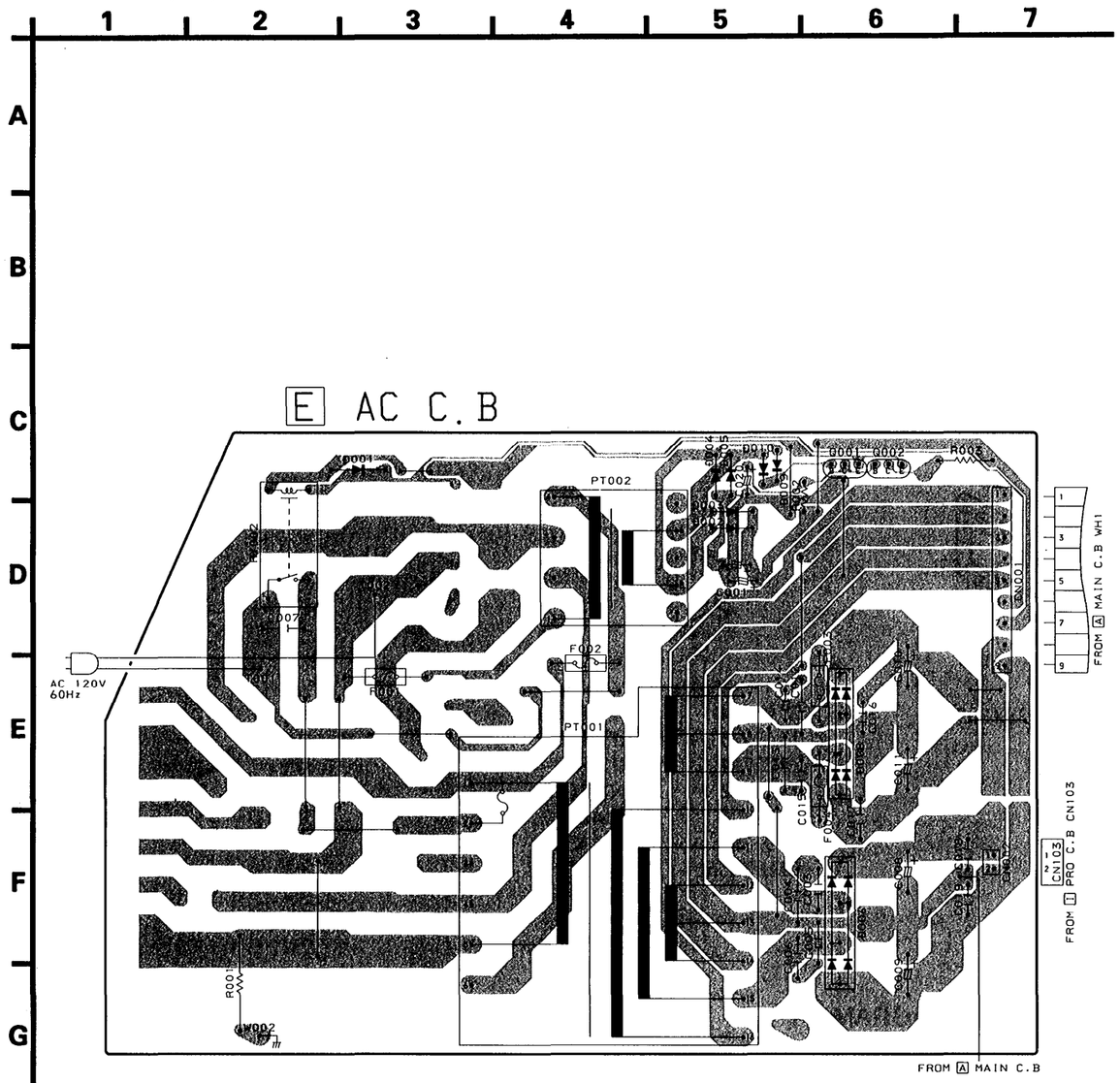
WIRING – 5 (CD KEY)



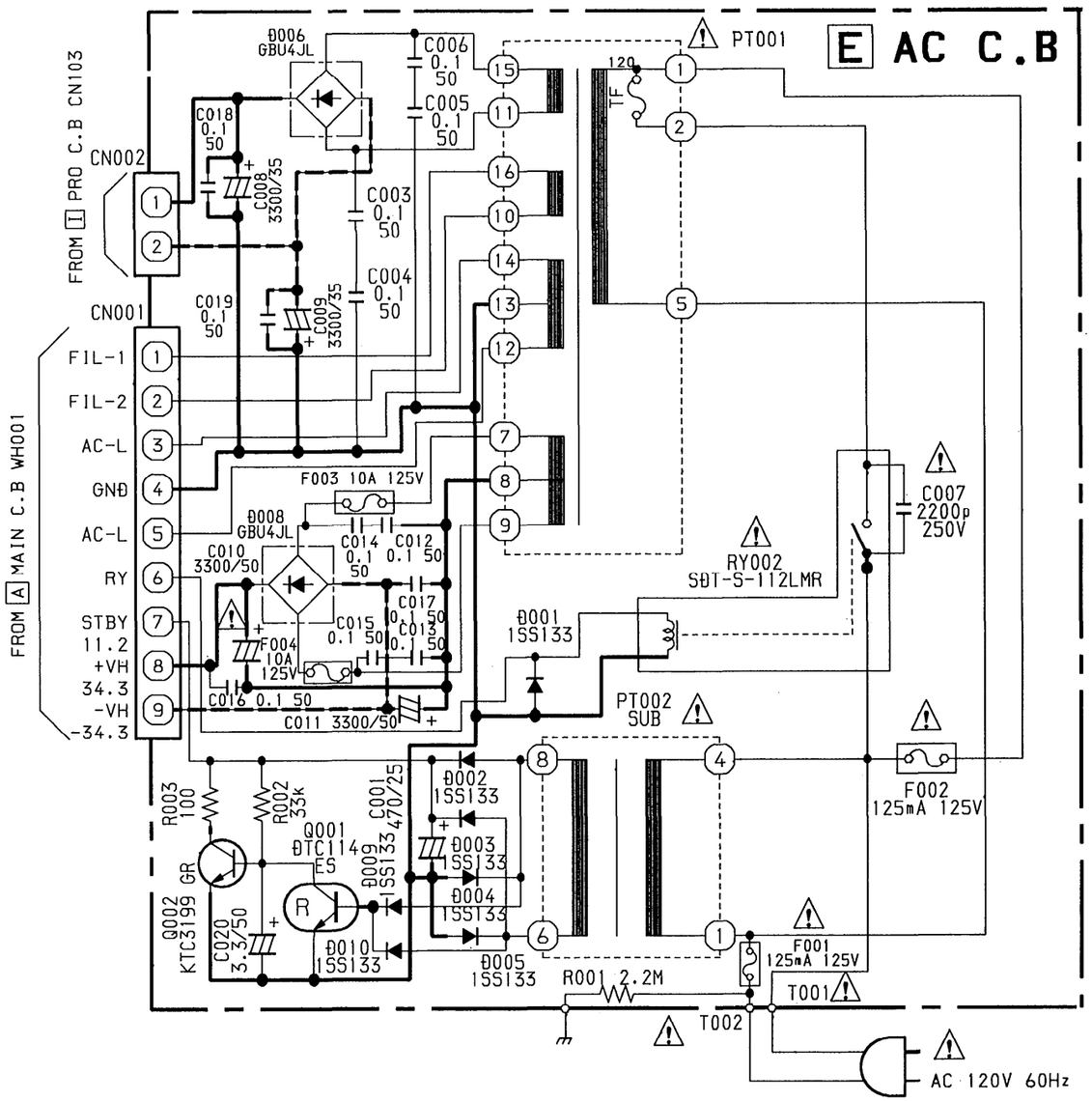
SCHEMATIC DIAGRAM – 7 (CD KEY)



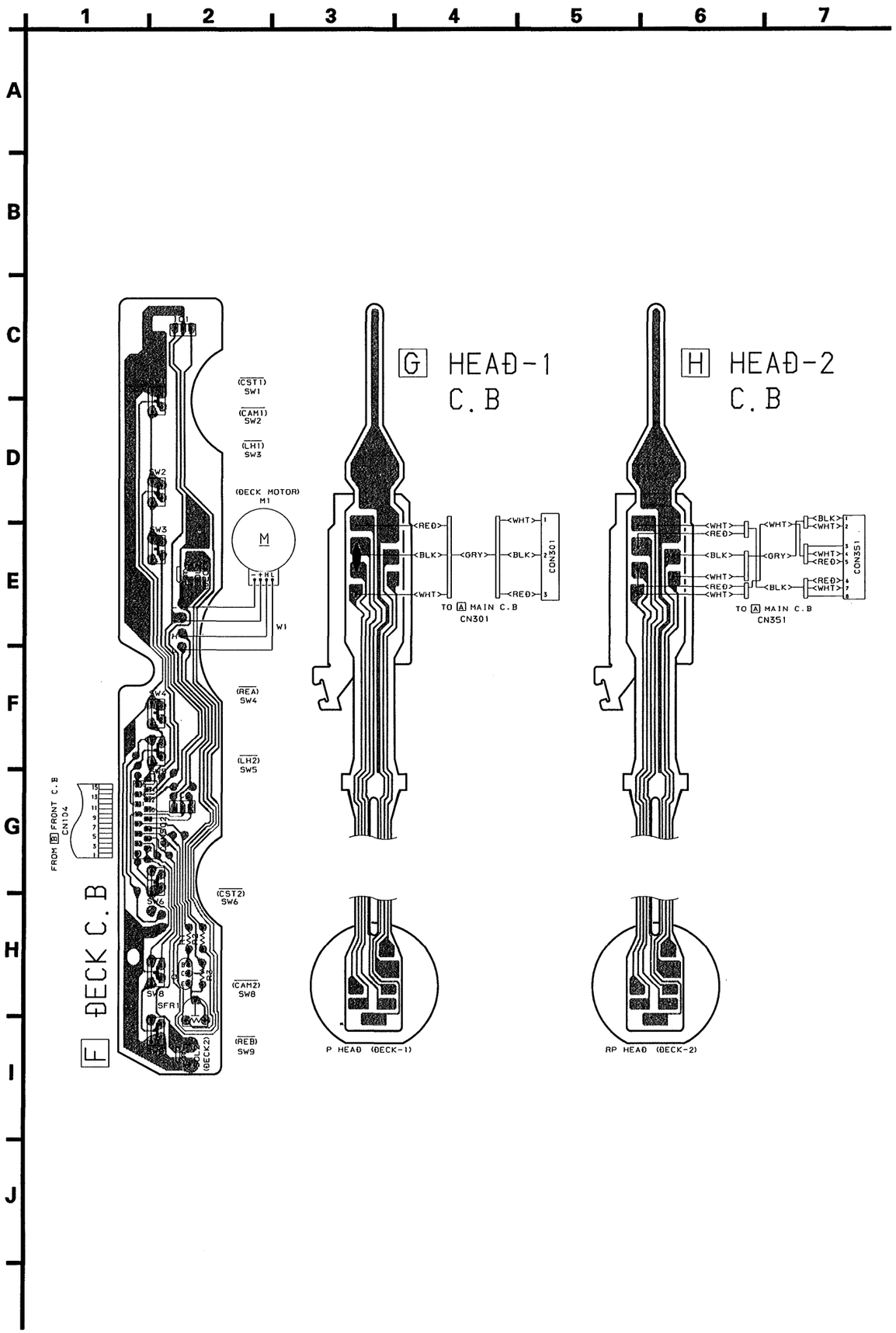
WIRING – 6 (AC)



SCHEMATIC DIAGRAM – 8 (AC)

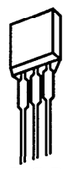


WIRING – 7 (DECK)



TRANSISTOR ILLUSTRATION

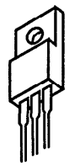
2SA1296
KTA1266
KTC3198



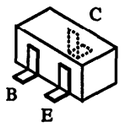
2SA933
2SC4115
DTC114ES
KTC3199

2SB1344
2SB1370
2SD2025
FN1016
FP1016

CC5551

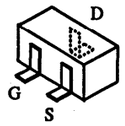


2SK3053



2SA1514
2SA1235
2SC2714
2SC3052
2SC3906
2SD1306
CMBT5551

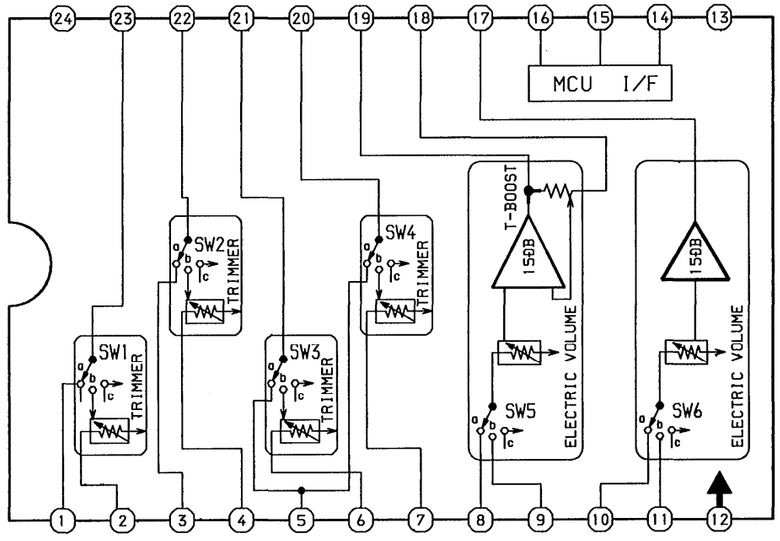
CSD1306
DTA123EK
KTA1298Y
RT1N141C
RT1P141C
RT1P144C
RT1P441C



2SK2158

IC BLOCK DIAGRAM – 1

IC, M62491FP



IC DESCRIPTION

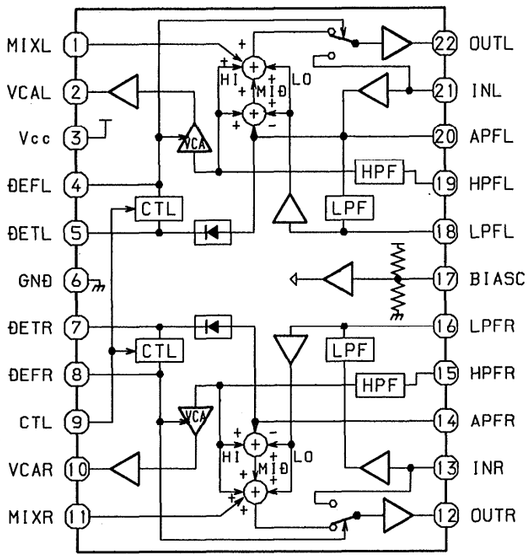
IC, LC876580W-5K53

Pin No.	Pin Name	I/O	Description
1	M-CLK	O	Main IC control serial CLOCK output.
2	M-DATA	O	Main IC control serial DATA output.
3	M-STB	O	Main IC control serail STROBE output.
4	PLL-CE	O	TUNER PLL IC control CHIP ENABLE output.
5	SR-LCK	O	SHIFT REGISTER IC control LATCH CLOCK output.
6	RYM-CS	O	RHYTHM IC control CHIP SELECT output (Not connected).
7	O-POWER	O	System power control output. H: POWER ON.
8	O-MUTE	O	System mute control output. H: MUTE ON.
9	$\overline{\text{C-SHIFT}}$	O	Microcomputer CLOCK SHIFT control output. L: SHIFT UP (initial H).
10	$\overline{\text{HP-MUTE}}$	I	During PROLOGIC, HEAD PHONE JACK insertion detection input. L: IN.
11	$\overline{\text{RESET}}$	I	Reset input.
12	RTVR	I	Waveform input for VOL rotary encoder.
13	JOG	I	Waveform input for JOG rotary encoder.
14	GND	–	Connected to GND.
15	CF1	I	Oscillator input for system clock (9.43MHz).
16	CF2	O	Oscillator output for system clock (9.43MHz).
17	VDD1	–	Power supply.
18	$\overline{\text{HOLD}}$	I	Power failure overcharge detection input.
19	KEY1	I	Tact key matrix 1 input.
20	KEY2	I	Tact key matrix 2 input.
21	KEY3	I	Tact key matrix 3 input.
22	CD-SW	I	CD MECHA SW matrix input.
23	DISH	I	CD turntable photo sensor input.
24	SPEANA	I	Spectrum analyser level detection input.
25	MIC	I	MIC level detection input.
26	$\overline{\text{MS}}$/ RDS_SG	I	During TAPE FUNC, MUSIC SENSOR detection input./ During TUNER FUNC, RDS Signal level input.
27	TM-BASE	I	Reference signal input for clock.
28	I-SENS/ RDS-CK	I	During CD FUNC, CD DSP SENS input./ During TUNER FUNC, RDS serial CLOCK input.
29	REM	I	Remote control signal input.
30 ~ 42	G13 ~ G1	O	FL grid G13 ~ G1 output.
43 ~ 45	P39 ~ P37	O	FL segment P39 ~ P37 output.
46	VDD	–	Power supply.
47	P36/SPEANA-A	O	FL segment P36 output/Spectrum analyser BPF switching control A output.
48	P35/SPEANA-B	O	FL segment P35 output/Spectrum analyser BPF switching control B output.
49	P34/SPEANA-C	O	FL segment P34 output/Spectrum analyser BPF switching control C output.
50	P33/$\overline{\text{ACDEMO}}$	O/I	FL segment P33 output/While initializing, DEMO MODE switching input. H: DEMO OFF
51	-VP	–	Power supply for FL input.
52	P32/TU3	O/I	FL segment P32 output/TUNER location switching 3 input.
53	P31/TU2	O/I	FL segment P31 output/TUNER location switching 2 input.
54	P30/TU1	O/I	FL segment P30 output/TUNER location switching 1 input.
55	P29/$\overline{\text{DSP}}$	O/I	FL segment P29 output/DSP setting switching input. H: Absent.

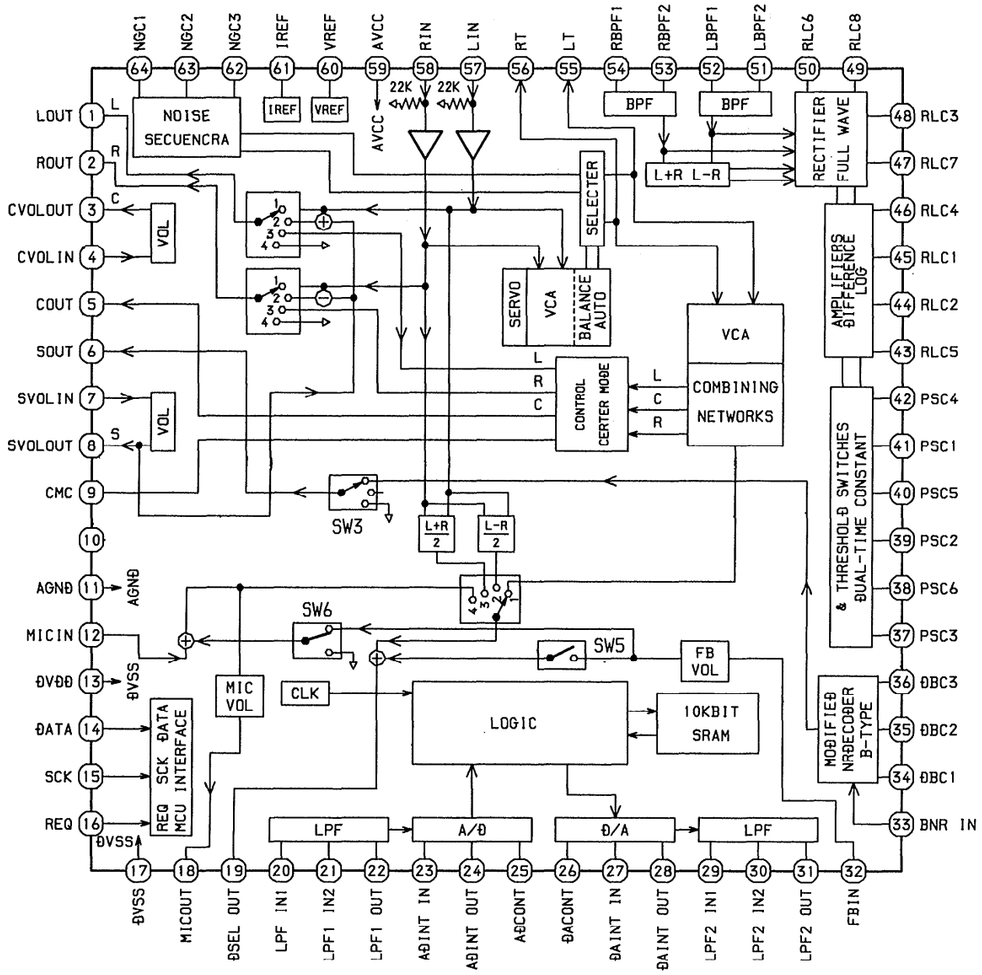
Pin No.	Pin Name	I/O	Description
56	P28/$\overline{\text{RHYTHM}}$	O/I	FL segment P28 output/RHYTHM setting switching input. H: Absent.
57	P27/KEYCON	O/I	FL segment P27 output/KEYCON setting switching input. H: Existent.
58	P26/5 MODE	O/I	FL segment P26 output/GEQ&DSP 5MODE/4MODE settng input. H: 5 MODE.
59	P25/$\overline{\text{BBE}}$	O/I	FL segment P25 output/BBE setting switching input. H: Absent.
60	P24/$\overline{\text{MS}}$+$\overline{\text{DLNR}}$	O/I	FL segment P24 output/MUSIC SENSOR+DOLBY NR setting switching input. H: Absent.
61	P23/$\overline{\text{DLNR}}$	O/I	FL segment P23 output/DOBY NR setting switching input. H: Absent.
62	P22/5.1+DLPRO	O/I	FL segment P22 output/5.1CH+DOLBY PROLOGIC setting switching input. H: Existent.
63	P21/DLPRO	O/I	FL segment P21 output/DOLBY PROLOGIC setting switching input. H: Existent.
64	P20/CST2	O/I	FL segment P20 output/Deck 2 cassette existence detection SW input. L: Existent.
65	P19/REB	O/I	FL segment P19 output/Deck 2 side-B recording able/disable detection SW output. L: Able.
66	P18/CAM2	O/I	FL segment P18 output/Deck 2 cam-operation detection SW input. L: ON.
67	P17/AUTO1	O/I	FL segment P17 output/Deck 1 reel-rotation detection signal input.
68	P16/AUTO2	O/I	FL segment P16 output/Deck 2 reel-rotation detection signal input.
69	P15/CAM1	O/I	FL segment P15 output/Deck 1 cam-operation detection SW input. L: ON.
70	P14/CST1	O/I	FL segment P14 output/Deck 2 cassette existence detection SW input. L: Existent.
71	P13/REA	O/I	FL segment P13 output/Deck 2 side-A recording able/disable detection SW input. L: Able.
72	VDD	–	Power supply.
73 ~ 84	P12 ~ P1	O	FL segment P12 ~ P1 output.
85	$\overline{\text{KEYSCAN}}$	O	Segment input timing output. L: Input timing.
86	$\overline{\text{MOTOR}}$	O	DECK MECHA motor control output. L: ON.
87	$\overline{\text{SOL1}}$	O	DECK 1 MECHA plunger control output. L: ON.
88	$\overline{\text{SOL2}}$	O	DECK 2 MECHA plunger control output. L: ON.
89	VSS2	–	Connected to GND.
90	VDD	–	Power supply.
91	DISH-RVS	O	CD turntable control output. H: Reverse rotation.
92	DISH-FWD	O	CD turntable control output. H: Forward rotation.
93	$\overline{\text{OPEN}}$	O	CD tray control output. L: OPEN.
94	$\overline{\text{CLOSE}}$	O	CD tray control output. L: CLOSE.
95	CD-DATA/ RDS-DATA	O/I	During CD FUNC, CD DSP control serial data output/ During TUNER FUNC, RDS serial data input.
96	CD-XLT	O	CD DSP control serial LATCH output. LATCH when drop.
97	CD-CLK	O	CD DSP control serial CLOCK output.
98	CD-LED	O	CD flash window LED control output. H: ON
99	CD-SUBQ/ IFC	O/I	During CD FUNC, SUBQ serial data input/ During TUNER FUNC, IF COUNT DATA input.
100	CD-SQCK/ $\overline{\text{STEREO}}$	O/I	During CD FUNC, CLOCK output for SUBQ READ OUT/ During TUNER STEREO signal input.

IC BLOCK DIAGRAM – 2

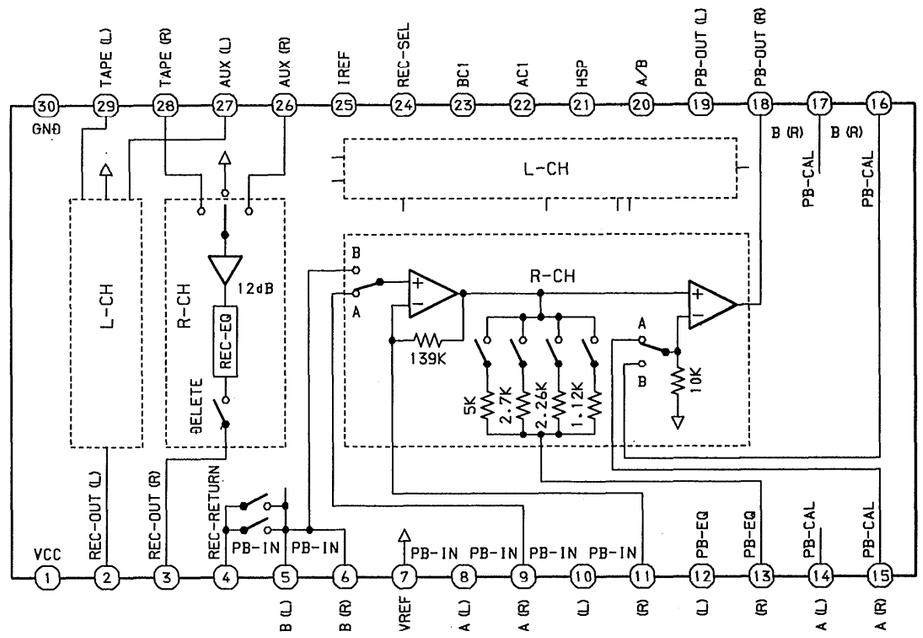
IC, BA3880FS



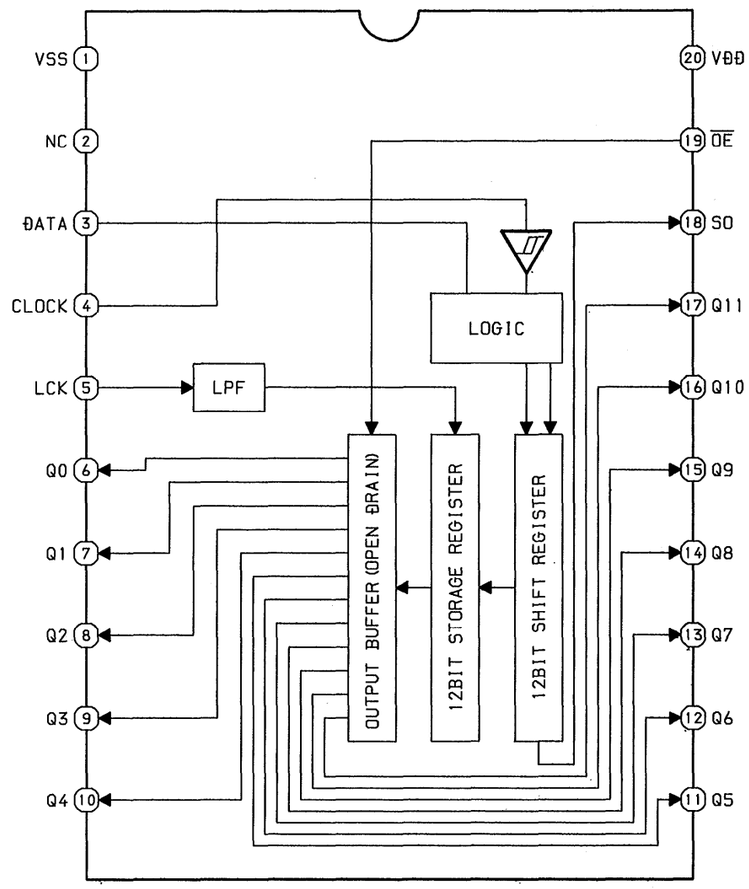
IC, M62463AFP



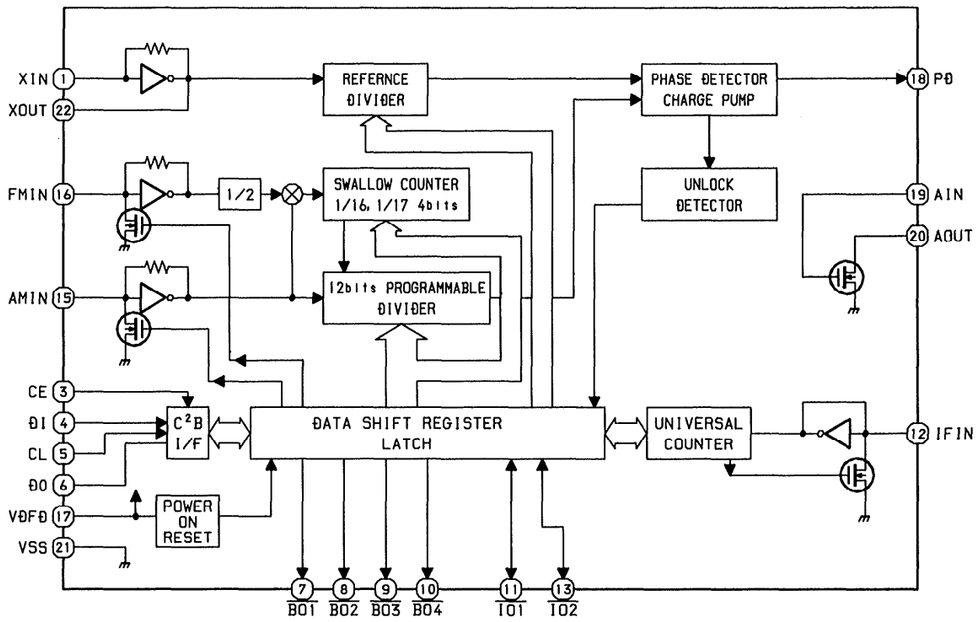
IC, HA12211



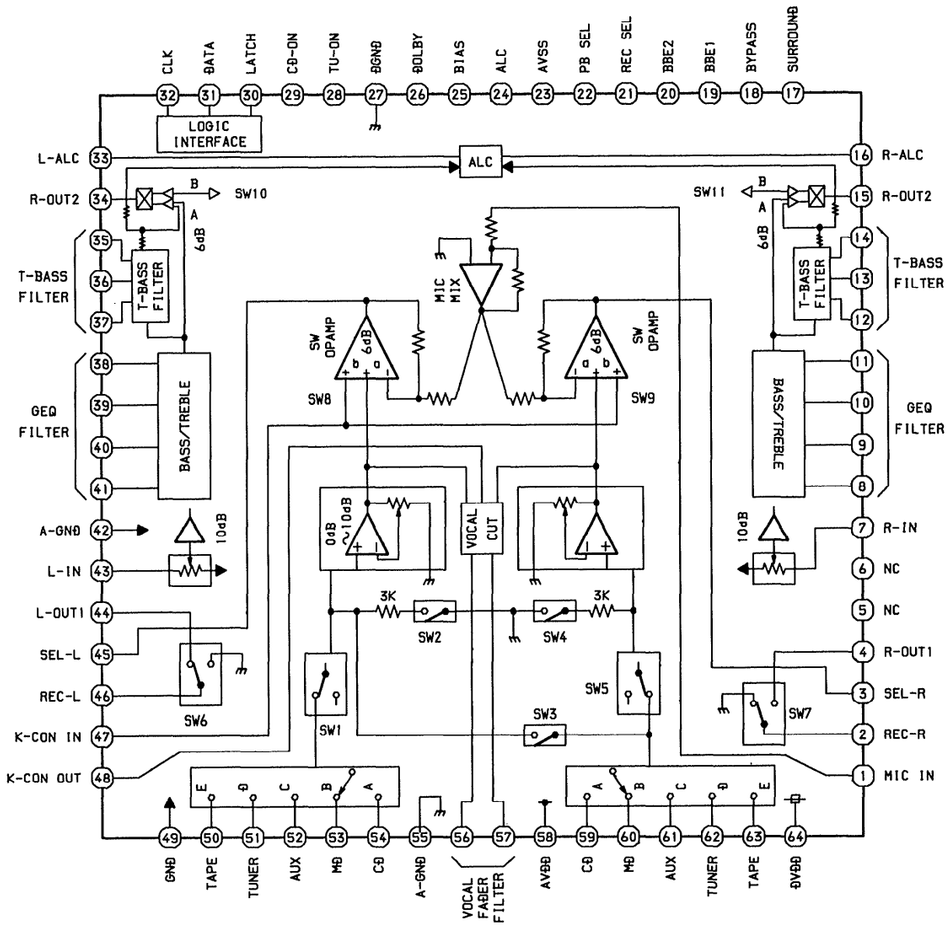
IC, BU2099FV



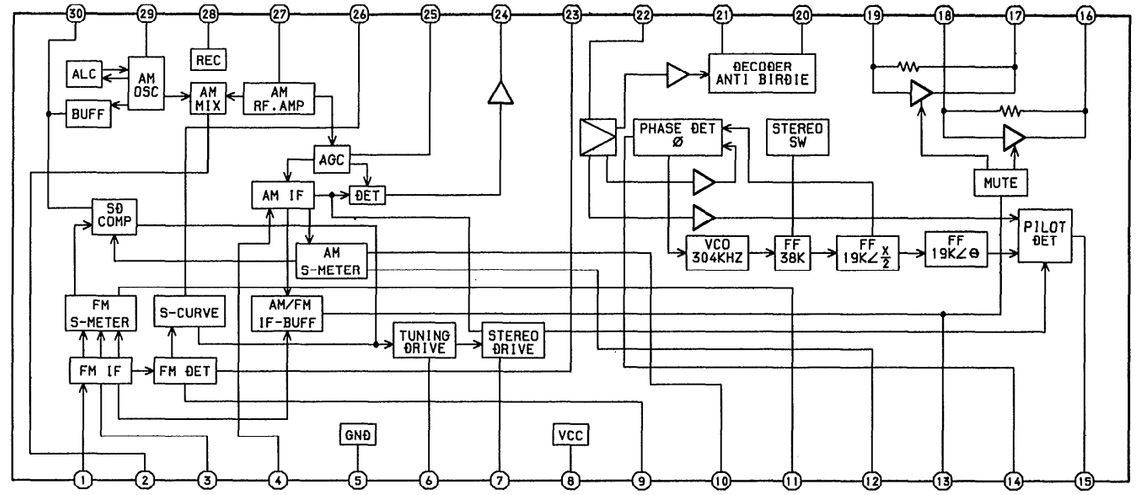
IC, LC72131D



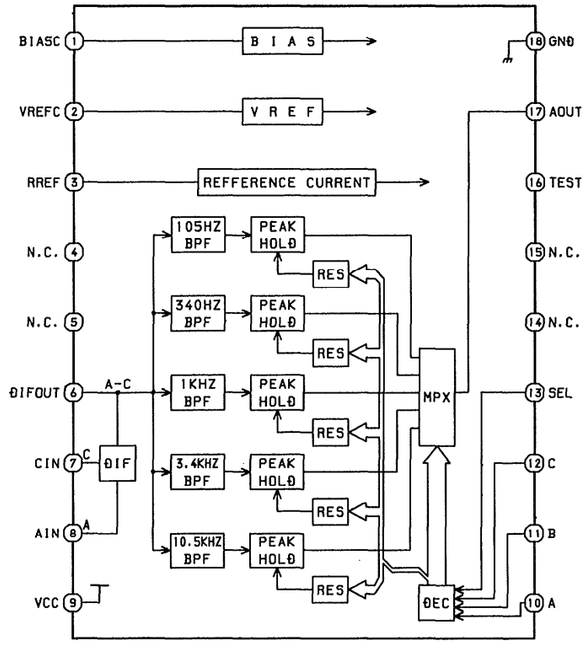
IC, M62445AFP



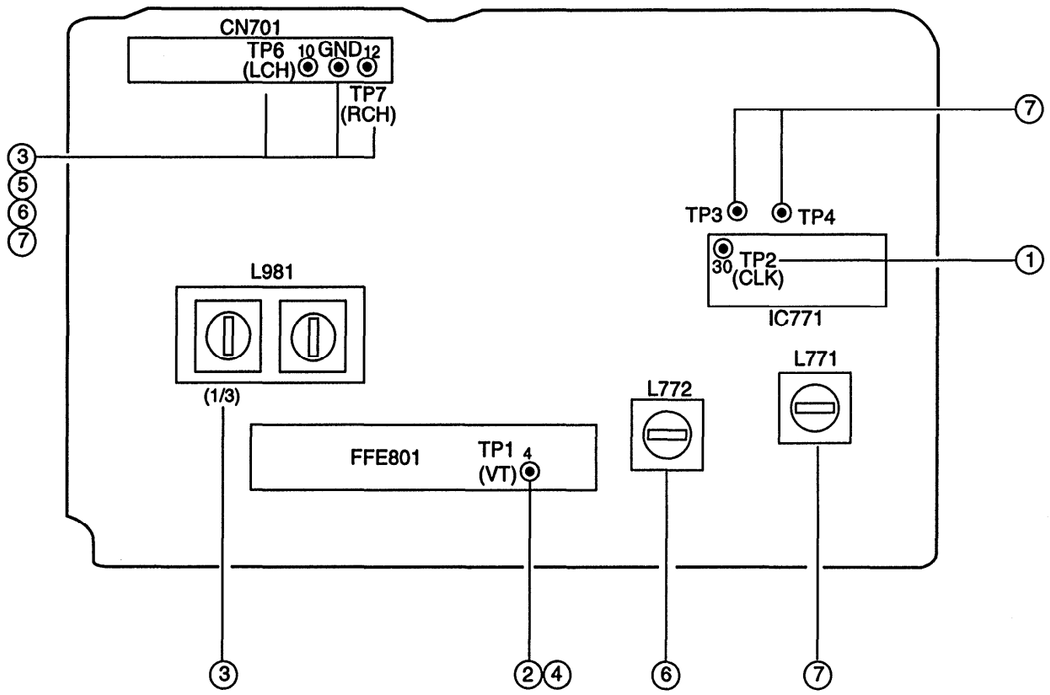
IC, LA1837NL



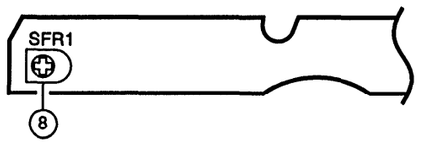
IC, BA3835F



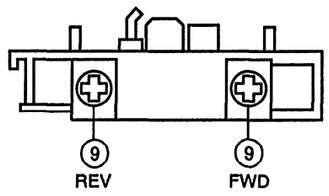
J TUNER C.B



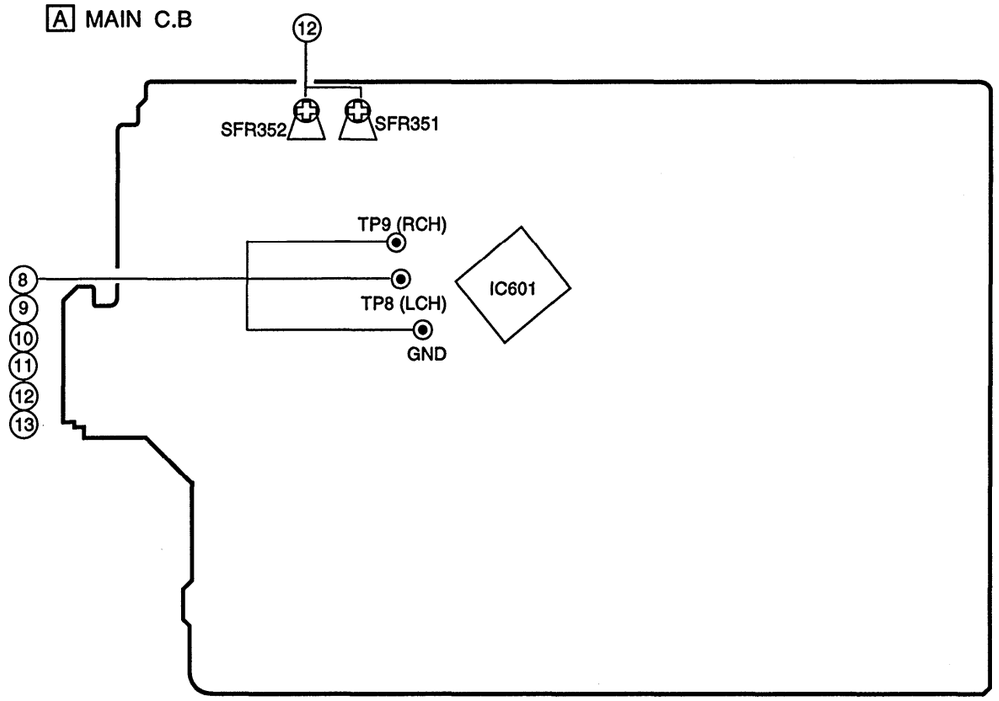
F DECK C.B



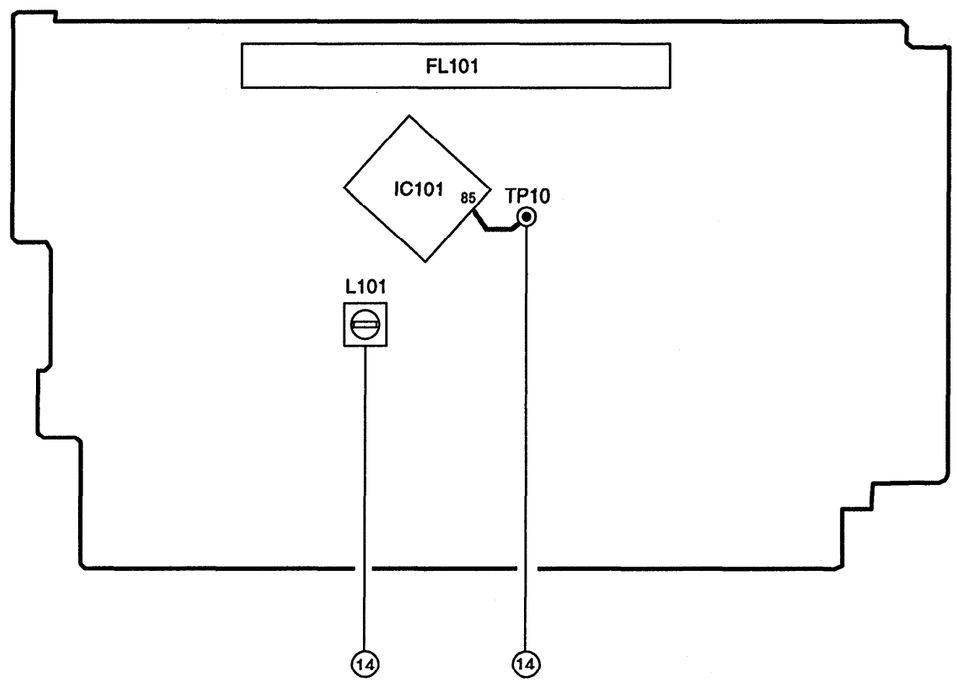
DECK–1 P,DECK-2R/P/E HEAD



A MAIN C.B



B FRONT C.B



< TUNER SECTION >

1. Clock Frequency Check
   Settings : • Test point : TP2 (CLK)
   Method : Set to AM 1710kHz and check that the test point is 2160kHz ± 45Hz.

2. AM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to AM 1710kHz and AM 530kHz and check that the test point is less than 8.5V(1710kHz) and more than 0.6V(530kHz).

3. AM Tracking Adjustment
   Settings : • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location :
   L981(1/3) 1000kHz
   Method : Set to AM 1000kHz and adjust L981(1/3) so that the test point is maximum.

4. FM VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to FM 108.0MHz and check that the test point is less than 8.0V.
   Set to FM 87.5MHz and check that the test point is more than 0.5V.

5. FM Tracking Check
   Settings : • Test point : TP6(Lch), TP7(Rch)
   Method : Set to FM 98.0MHz and check that the test point is less than 9.0dBμV.

6. AM IF Adjustment
   Settings : • Test point : TP6(Lch), TP7(Rch)
   • Adjustment location :
   L772 ..... 450kHz

7. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC Balance)
   TP6(Lch), TP7(Rch) (Distortion)
   • Adjustment location : L771
   • Input level : 60dBμV
   Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
   Next, check that the distortion is less than 1.3%

< DECK SECTION >

8. Tape Speed Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA–100
   • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location : SFR1
   Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz and ±45Hz (REV) with respect to forward speed.

9. Head Azimuth Adjustment (DECK 1, DECK 2)
   Settings : • Test tape : TTA–330
   • Test point : TP8(Lch), TP9(Rch)
   • Adjustment location : Head azimuth adjustment screw
   Method : Play back (FWD) the 8kHz signal of the test tape and adjust screw so that the output becomes maximum.
   Next, perform on REV PLAY mode.

10. PB Frequency Response Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–330
    • Test point :TP8(Lch), TP9(Rch)
    Method : Play back the 315Hz and 8kHz signals of the test tape and check that the output ratio of the 8kHz signal with respect to that of the 315Hz signal is within 5dB.

11. PB Sensitivity Check (DECK 1, DECK 2)
    Settings : • Test tape : TTA–200
    • Test point : TP8(Lch), TP9(Rch)
    Method : Play back the test tape and check that the output level of the test point is 250mV ± 3dB.

12. REC/PB Frequency Response Adjustment (DECK 2)
    Settings : • Test tape : TTA–602
    • Test point : TP8(Lch), TP9(Rch)
    • Input signal : 1kHz / 10kHz (LINE IN)
    • Adjustment location : SFR351 (Lch)
    SFR352 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes 21mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output level of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

13. REC/PB Sensitivity Check (DECK 2)
    Settings : • Test tape : TTA–602
    • Test point : TP8(Lch), TP9(Rch)
    • Input signal : 1kHz (LINE IN)
    Method : Apply a 1kHz signal and REC mode. Then check the output level at the TP8, TP9 becomes 210mV.
    Record and play back the 1kHz signals and adjust SFRs so that the output is -2dB ± 3.5dB.

14. μ-CON OSC Adjustment
    Settings : • Test point : TP10 (IC101 Pin 85)
    • Adjustment location : L101
    Method : Insert AC plug with pressing TUNER function key. Adjust L101 so that the frequency across the test point is 130.430Hz ± 1.3Hz.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	Less than 10dB
(THD 3%)	[at 87.5MHz]
	Less than 9dB
	[at 98.0 / 108.0MHz]
S/N 50dB Quieting sensitivity (L-R) :	
	Less than 35dB
	[at 98.0MHz]
Signal to noise ratio :	MONO : More than 68dB
	STEREO : More than 66dB
	[at 98.0MHz]
Distortion :	MONO : Less than 1.2%
	STEREO : Less than 2.0%
	[at 98.0MHz]
Auto stop level :	25dB ± 10dB
	[at 98.0MHz]
Stereo separation :	More than 22dB
	[at 98.0MHz]
Intermediate frequency :	10.7MHz

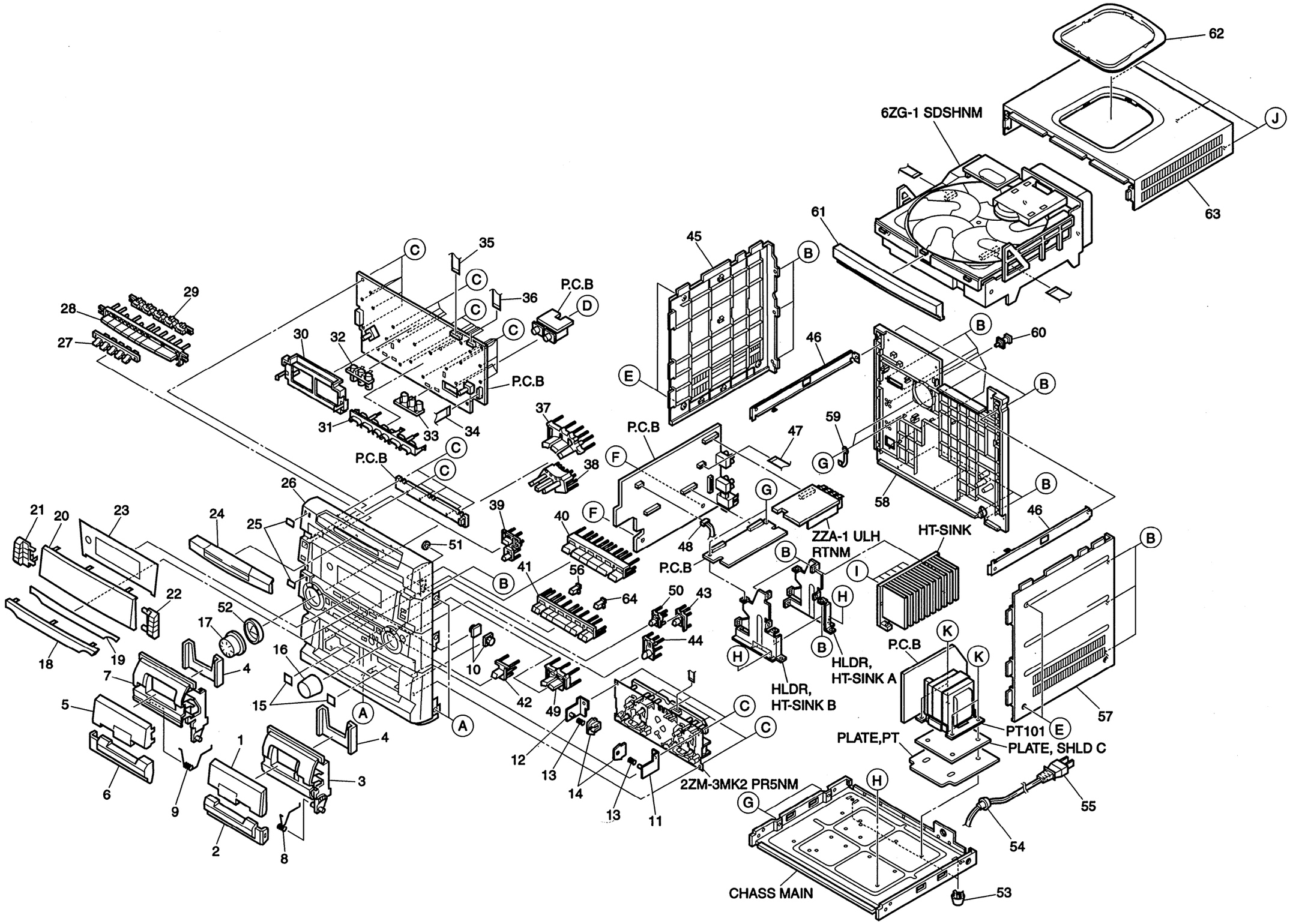
<AM SECTION>

Sensitivity :	Less than 60dB
(S/N 20 dB)	[at 600kHz]
	Less than 58dB
	[at 1000 / 1400kHz]
Signal to noise ratio :	MONO : More than 36dB
	STEREO : More than 34dB
	[at 1000kHz]
Distortion :	MONO : Less than 1.5%
	STEREO : Less than 4%
	[at 1000kHz]
Auto stop level :	52dB + 10/-15dB
	[at 1000kHz]
Stereo separation :	More than 15dB
	[at 1000kHz]
Intermediate frequency :	450kHz

<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.15% (W.R.M.S)
Pinch roller pressure :	270 ~ 330g (FWD, REV)
Take-up torque :	30 ~ 55g-cm (FWD, REV)
F.F & REW torque :	75 ~ 160g-cm
Back tension :	2 ~ 7g-cm (FWD, REV)
PB Output level :	250mV ± 3dB
Distortion (REC/PB) :	Less than 2.0% (NORMAL, CrO2)
Noise level (PB) :	Less than 1.0mV (NORMAL)
Noise level (REC/PB) :	Less than 1.2mV (NORMAL)
Erasing ratio :	More than 60dB (at 125Hz, 10VU)
Test tape :	NORMAL : TTA–602
	CrO2 : TTA–615

MECHANICAL EXPLODED VIEW 1 / 1



MECHANICAL PARTS LIST 1 / 1

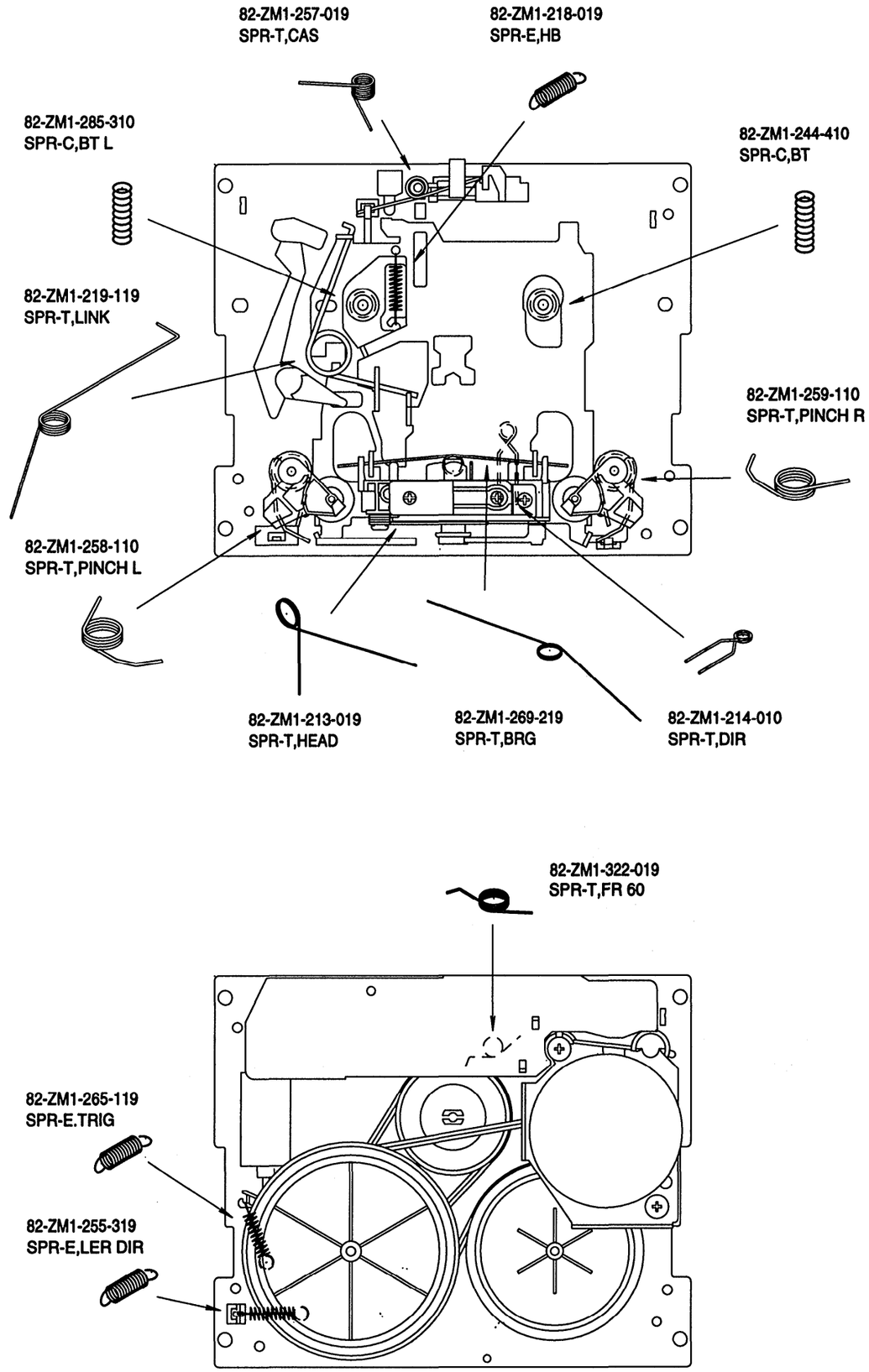
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-MA1-016-010		WINDOW,CASS R
2	8Z-MA3-025-010		PANEL,CASS(A3) R
3	8Z-MA1-007-010		BOX,CASS R
4	86-NF6-061-010		REFLECTOR,CASS
5	8Z-MA1-015-010		WINDOW,CASS L
6	8Z-MA3-024-010		PANEL,CASS(A3) L
7	8Z-MA1-006-010		BOX,CASS L
8	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
9	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
10	87-NF8-220-010		DMPR,150
11	87-NF4-217-010		HLDR,LOCK 2
12	87-NF4-216-010		HLDR,LOCK 1
13	86-NF9-224-010		SPR-C,LOCK
14	82-NF5-229-010		PLATE,LOCK
15	81-532-080-010		LABEL, CASS. COMPT
16	8Z-MA1-039-010		KNOB,RTRY MAIN
17	8Z-MA1-027-010		KNOB,RTRY JOG
18	8Z-MAN-013-010		WINDOW,FUN LH (22)
19	8Z-MA3-031-010		PLATE,FUN(A3)
20	8Z-MAP-014-010		WINDOW,AMP U(23)
21	8Z-MA2-010-010		KEY,DSP(A2)
22	8Z-MA2-011-010		KEY,GEQ(A2)
23	8Z-MAP-010-010		PLATE,GEQ(23)
24	8Z-MA1-012-010		PANEL,CD
25	82-NE6-067-010		BADGE,AIWA 30N
26	8Z-MAP-004-010		CABI,FR U (23)
27	8Z-MA1-018-010		REFLECTOR,CD
28	8Z-MA1-017-010		KEY,DIRECT
29	8Z-MA1-206-010		GUIDE,CD
30	88-MA2-202-010		GUIDE,FL(2)
30	85-NF5-211-110		GUIDE,LED R
31	8Z-MA1-201-010		GUIDE,LED PLAY
32	85-NF5-210-110		GUIDE,LED L
34	85-MA2-602-010		CABLE,FFC 15P-1.25
35	88-914-251-110		FF-CABLE,14P 1.25 250
36	88-908-231-110		FF-CABLE,8P 1.25
37	8Z-MA3-028-010		KEY,JOG(A3)
38	8Z-MA3-035-010		KEY,TIMER(A3)
39	8Z-MA1-019-010		KEY,POWER
40	8Z-MAM-016-010		KEY,FUN PRO
41	8Z-MA1-031-010		KEY,PLAY
42	8Z-MA1-042-010		KEY,VF
43	8Z-MA1-044-010		KEY,DEMO
44	8Z-MA1-040-010		KEY,T-BASS
45	8Z-MA4-048-010		PANEL,SIDE L(U)
46	88-MA1-208-110		JOINT,CABI
47	88-906-281-110		FF-CABLE, 6P 1.25 280MM
48	83-NEG-608-010		CONN ASSY 8P-RPB
49	8Z-MA3-034-010		KEY,MIC(A3)
50	8Z-MAM-010-010		KEY,PRO
51	88-MA5-208-010		W 4.21-6.5-0.5 W/ADH
52	8Z-MA1-025-010		REFLECTOR,JOG
53	87-MA3-062-010		FOOT, H17
54	87-085-189-010		BUSHING, CORD (U)
⚠ 55	87-A80-110-010		AC CORD ASSY,U SPT-2W
56	8Z-MA1-035-010		REFLECTOR,REW
57	8Z-MA4-049-010		PANEL,SIDE R(U)
58	8Z-MAP-008-010		CABI,REAR USTNM (23)
59	87-064-185-010		HLDR,WIRE
60	84-ZG1-245-210		CAP,OPTICAL
61	8Z-MA1-010-010		PANEL,TRAY
62	87-MAT-009-010		WINDOW,TOP(U)
63	8Z-MA4-058-010		PANEL,TOP U
64	8Z-MA1-034-010		REFLECTOR,STOP
A	87-591-095-410		TAPPING SCREW, QIT+3-8 (GLD)
B	87-067-703-010		TAPPING SCREW, BVT2+3-10
C	87-078-060-010		BVIT3PB+3-10
D	81-MK1-210-010		S-SCREW,VFT2+3-16
E	87-067-641-010		UTT2+3-8(W/O SLOT)BL
F	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
G	87-067-579-010		TAPPING SCREW, BVT2+3-8
H	87-067-688-010		BVTT+3-6
I	87-067-001-010		S-SCREW,BVWWST2+3-12
J	87-067-758-010		BVT2+3-12 W/O SLOT
K	87-067-975-010		S-SCREW,IT+4-8

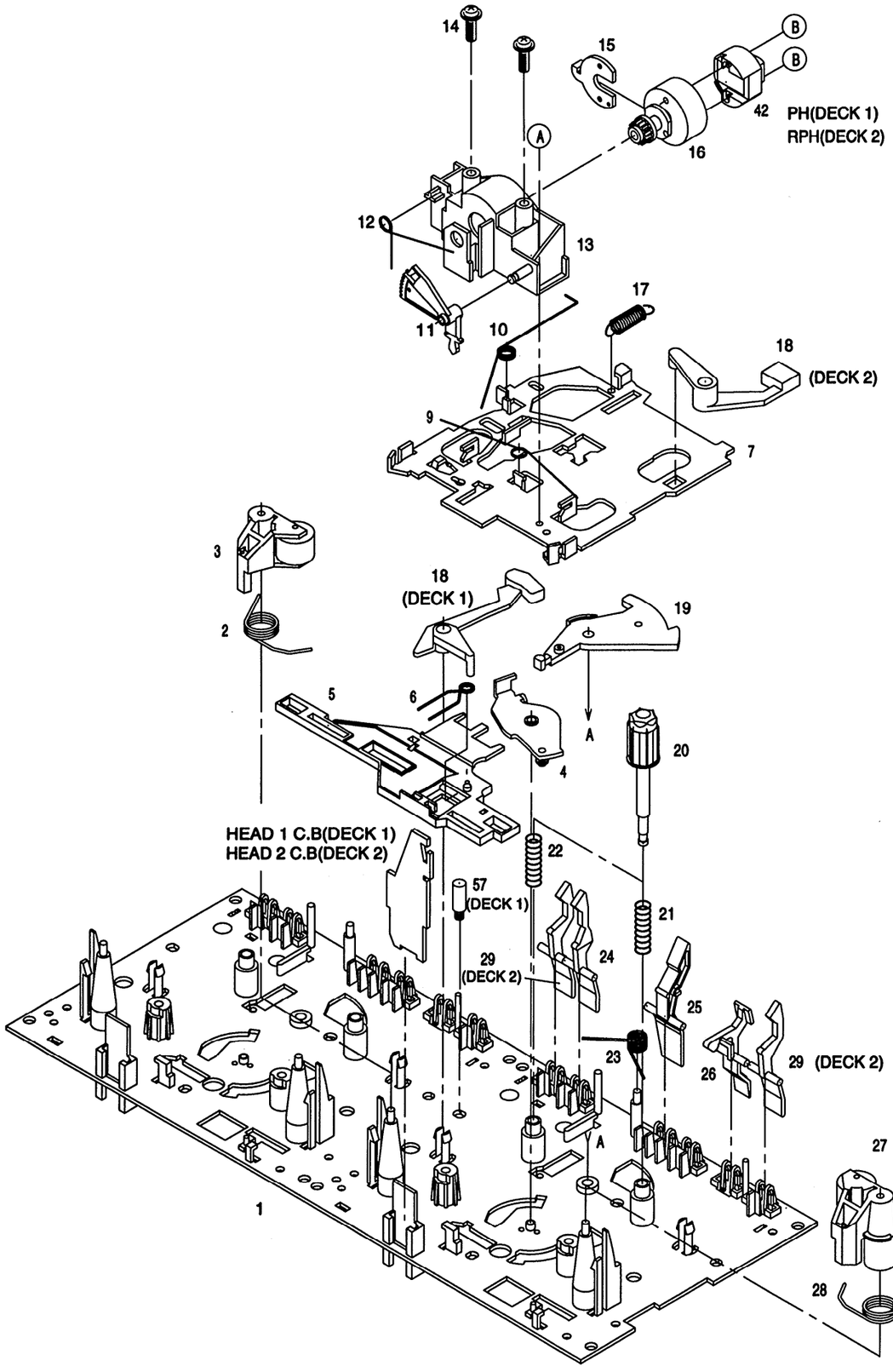
COLOR NAME TABLE

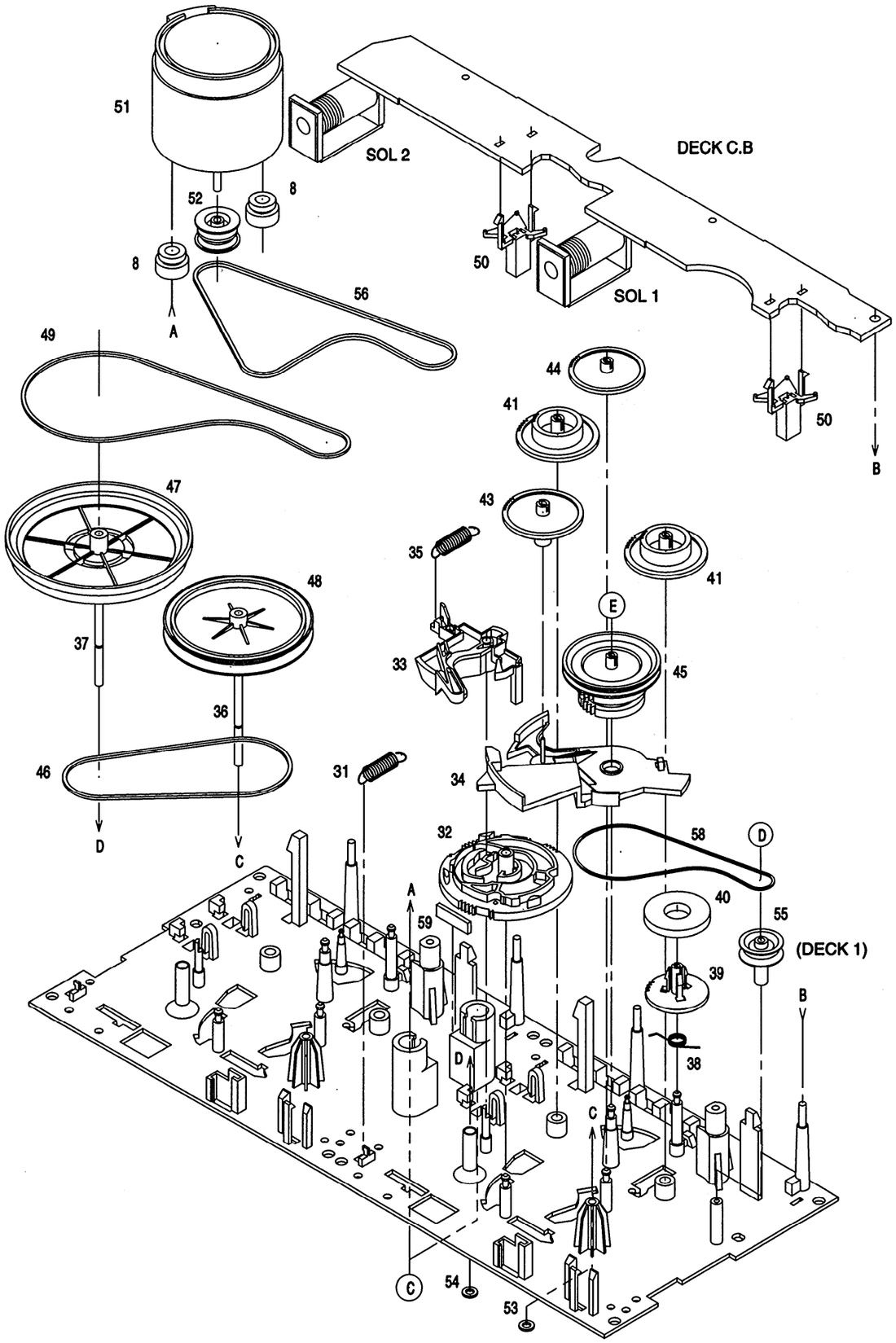
Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

SPRING APPLICATION POSITION



TAPE MECHANISM EXPLODED VIEW 1 / 1





TAPE MECHANISM PARTS LIST 1 / 1

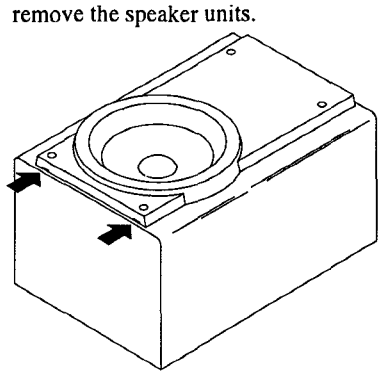
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-341-110		LVR ASSY,PINCH L2
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	86-ZM4-206-010		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-110		LVR ASSY,PINCH R2
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-A90-366-010		HEAD,PH YK50P-BF414 FPC
42	87-A90-367-010		HEAD,RPH YK56R-BF414 FPC
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-110		FLY-WHL,R W(DECK 2)
47	82-ZM3-338-110		FLY-WHL,R3 W(DECK 1)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 2)
48	82-ZM1-348-010		FLY-WHL,L W(DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-335-210		PULLEY,COUPLER M3(DECK 1)
56	82-ZM3-337-010		BELT,SBU MOT 2
57	82-ZM3-339-010		SHAFT,COUPLER N3(DECK 1)
58	86-ZM1-206-010		BELT,MAIN L
59	82-ZM3-340-010		SH,BELT D2
A	85-ZM3-202-010		S-SCREW,TG
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW,2.16-6-0.4

SPEAKER DISASSEMBLY INSTRUCTIONS

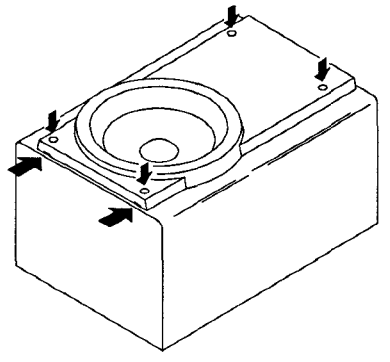
Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



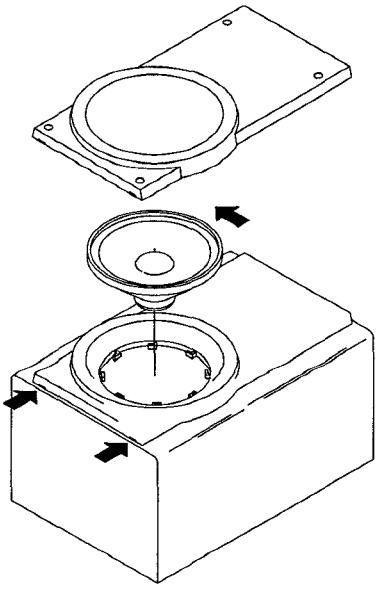
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

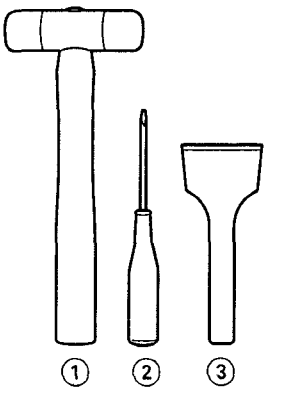


Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



Type.4



TOOLS

① Plastic head hammer
② (⊖) flat head screwdriver
③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.

2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.

3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

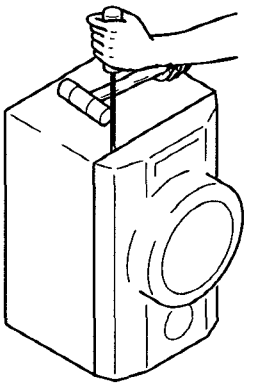


Fig-1

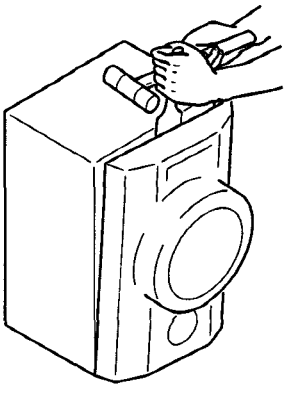


Fig-2

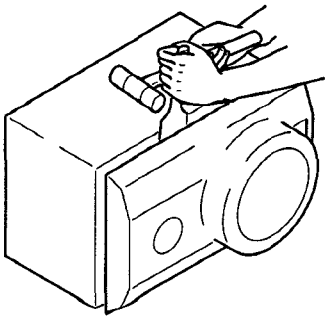


Fig-3

How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER (SX-ZHT65) PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-MSC-001-010		PANEL,FR
2	8Z-MSC-003-010		PANEL,TW L
3	8Z-MSC-002-010		PANEL,TW R
4	8Z-MSC-006-010		PROTECTOR,
5	8Z-MSC-007-010		GRILLE,FRAME ASSY
6	87-MS7-601-110		SPKR,W 200
7	88-NS5-605-010		SPKR,T 60
8	88-MS1-608-010		SPKR, CERAMIC
9	88-NS3-605-010		CAP,
10	88-MS1-610-010		CORD,SPKR

SPEAKER (SX-R275) PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-YS1-004-010		GRILLE,FRAME ASSY
2	87-YS1-001-010		CABI,REAR
3	81-VSA-009-010		CORD,BUSH
4	87-010-384-010		CAP,E 100-25 M SME
5	87-YS6-002-010		SPKR,CORD Y
6	87-YS6-601-010		SPKR,100

SPEAKER (SX-C605) PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-YS3-001-010		PANEL,FR ST
2	87-YS3-002-010		PANEL,REAR ST
3	81-VSA-009-010		CORD,BUSH
4	87-YS3-003-010		GRILLE,FRAME ASSY
5	83-NSM-010-010		SPKR,CORD
6	87-YS7-604-010		SPKR,100

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

アイワ株式会社
AIWA CO.,LTD.

9630466, 931261
Tokyo Japan

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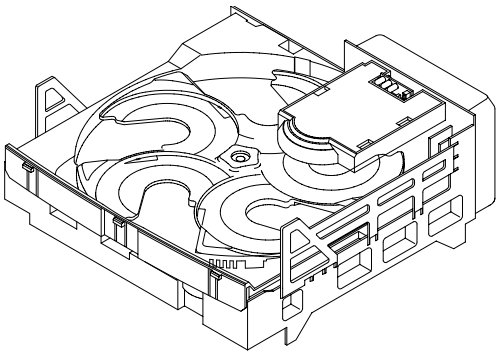
Printed in Singapore

aiwa SERVICE

6ZG-1

English



SERVICE MANUAL

CD-R/RW MECHANISM

BASIC CD MECHANISM :3ZG-2 E2

TYPE
ZRDM
ZRNDM
YZRNDM
YZRNDCM

aiwa

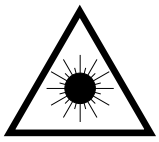
S/M Code No. 09-001-338-7N2

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

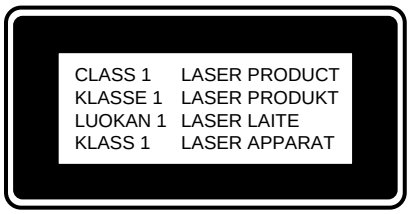
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

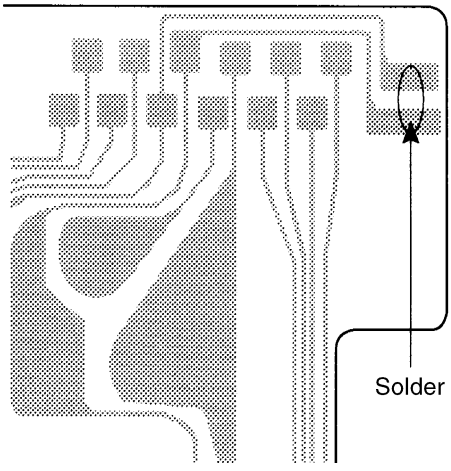


Precaution to replace Optical block (KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



DISASSEMBLY INSTRUCTIONS

1. How to replace PICK UP.

1) Open the TRAY.
   Push the stopper to arrow direction and release half of the SHAFT SLED.
2) Turn GEAR MAIN CAM to the counterclockwise (arrow “a”) direction, and lift up CD mechanism. (Fig-1)
3) Remove SHAFT SLED.
4) CD mechanism in down position, replace PICK UP.
5) Lift up CD mechanism (Fig-1), and Reassemble the SHAFT SLED.

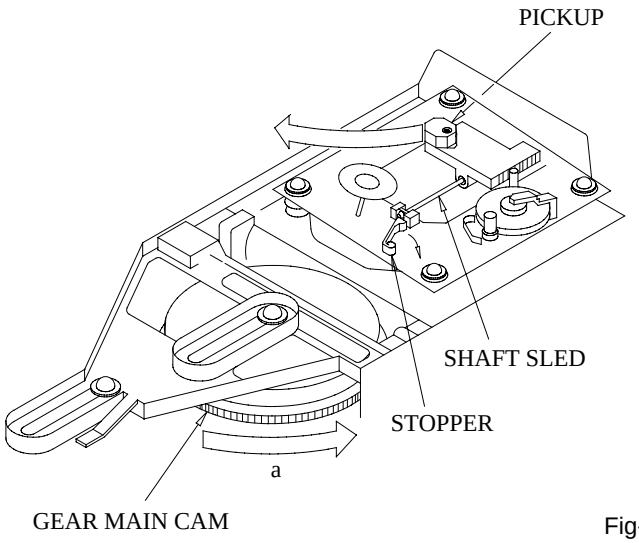
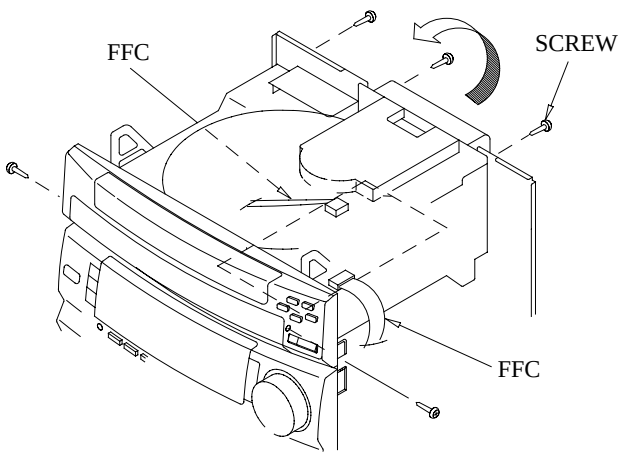


Fig-1

2. How to remove the 5CD CHANGER BLOCK (Fig-2)

1) Remove the two FFC of the CD circuit board, and remove the five SCREWS.
2) Lift 5 CD CHANGER BLOCK from behind, and remove it. (5CD CHANGER BLOCK can be removed even if PANEL TRAY is not removed.)



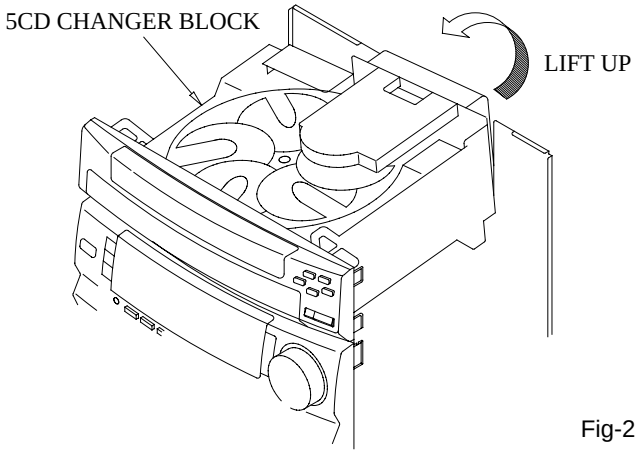
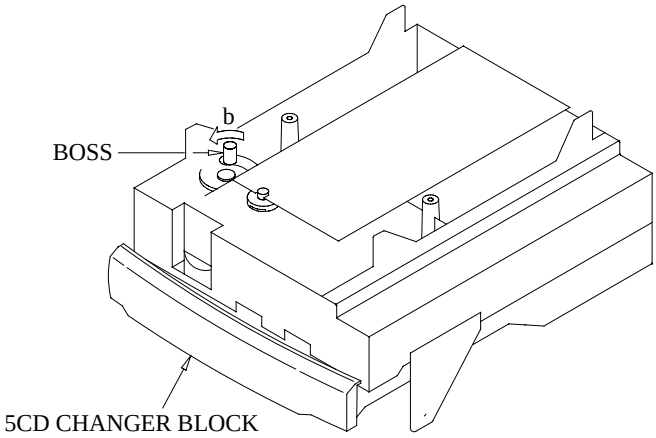


Fig-2

3. The disassemble and reassemble the TRAY

3-1. Disassembling procedure.

1) Push the PLATE GEAR'S Boss at the bottom part of CHAS MECHA strongly to the outside (arrow "b" direction). (Fig-3)
   (Confirm that TRAY appears a little in the front.)
2) Draw TRAY to the open position.
3) Remove FFC, and push the two LEVERS at both side of the CHAS MECH to remove TRAY. (Fig-4)



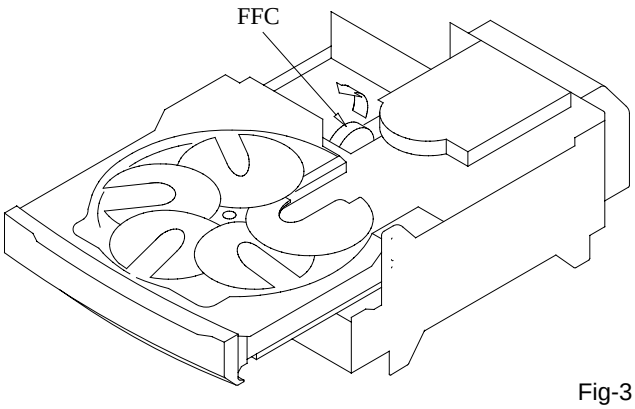


Fig-3

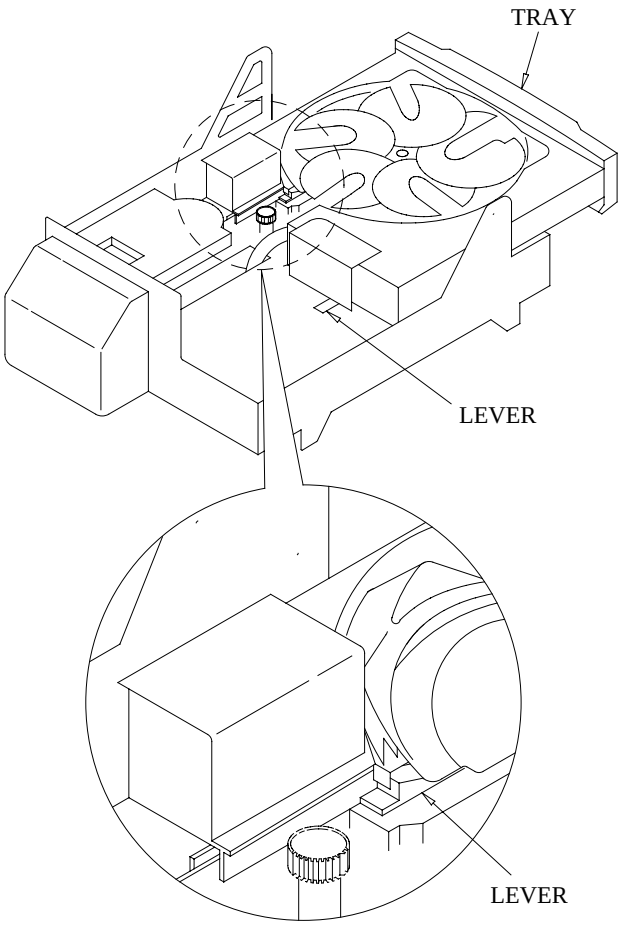


Fig-4

3-2. Reassembling procedure.

1) Confirm that LEVER TRAY is at the most right position and check for the CD Mechanism to be in the down position. (Fig-5)
2) Push in the TRAY along the rail of the CHAS MECHA.
3) After TRAY is half closed and FFC is put in, it can enter by force until the end of TRAY closed. (Fig-6)

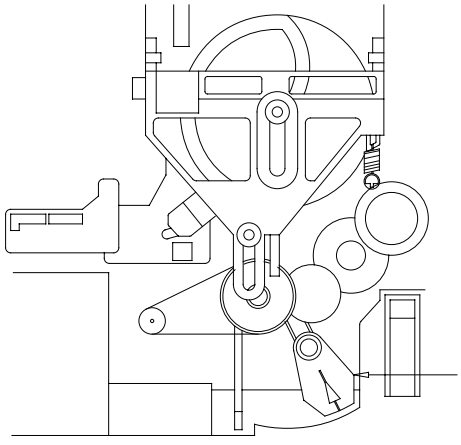


Fig-5

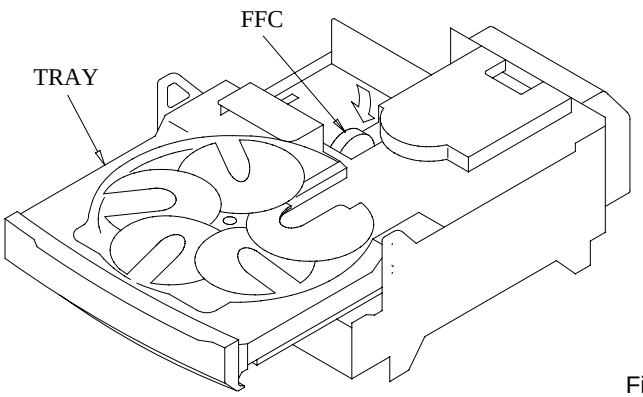


Fig-6

4. How to reassemble the TURN TABLE. (Fig-7)

1) Push LEVER TT in the direction of “C”, and put in the TURN TABLE 5CD. (Fig-7)
After reassembly, one of the TURN TABLE DISC TRAY (can be either one of the five disc trays) must be aligned with TURN TABLE 5CD. (Fig-8)
That is, having no gap difference between the TURN TABLE 5CD and the TRAY 5CD.

* When reassembling the TURN TABLE 5CD, it is acceptable facing any CD number (1-5).

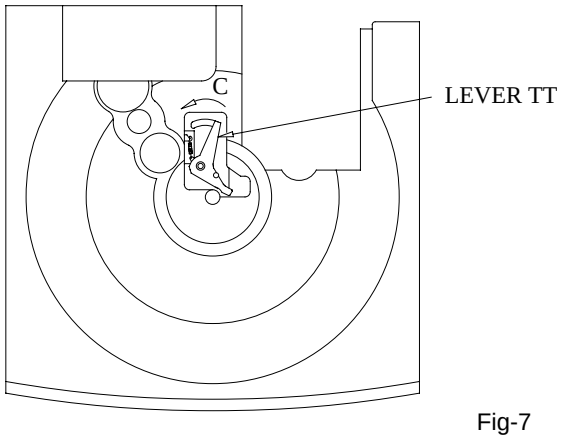


Fig-7

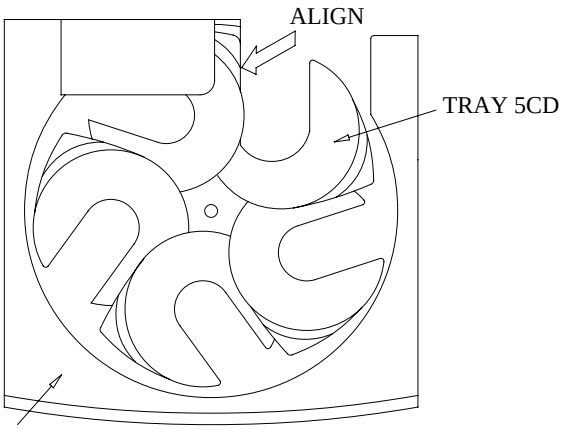


Fig-8

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

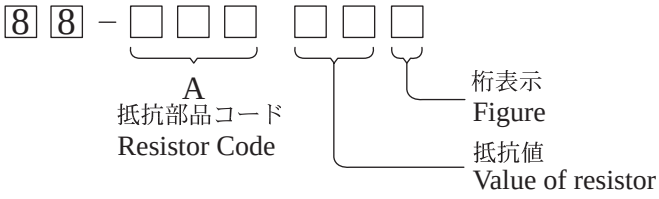
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A21-381-040		C-IC,LA9235M
	87-A21-591-010		C-IC,LC78641NE-D
	87-001-982-010		IC,TA7291S
	87-A21-513-040		C-IC,BA6998FP
TRANSISTOR			
	87-026-609-080		TR,KTA1266GR
	87-A30-076-080		C-TR,2SC3052F
	87-A30-318-080		TR,CSA952K
	89-421-722-380		TR,2SD2172V/W
	89-320-011-080		TR,2SC2001 (15W)
	87-026-223-080		TR,DTC143TK
	87-A30-031-010		P-TR,PT380F
	87-026-608-080		C-TR,DTC 123 JK<ZRDM>
	87-A30-075-080		C-TR,2SA1235F
DIODE			
	87-A40-003-080		ZENER,MTZJ4.3A
	87-A40-509-080		ZENER,MTZJ6.8C
	87-A40-313-080		C-DIODE,MC 2840
	87-020-465-080		DIODE,1SS133 (110MA)
5CD C.B			
C1	87-010-374-080		CAP, ELECT 47-10V
C2	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C2	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C3	87-010-553-080		CAP,E 47-16
C4	87-010-260-080		CAP, ELECT 47-25V
C5	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C5	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C6	87-010-405-080		CAP, ELECT 10-50V
C7	87-010-263-080		CAP, ELECT 100-10V
C8	87-010-178-020		C-CAP,S 1000-50 B<ZRNDM,YZRNDM>
C8	87-010-178-080		CHIP CAP 1000P<YZRNDCM,ZRDM>
C10	87-010-069-080		CAP,E 0.33-50 5L
C11	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C13	87-010-321-020		C-CAP,S 82P-50 CH<ZRNDM,YZRNDM>
C13	87-010-321-080		CHIP CAPACITOR,82P(J) <YZRNDCM,ZRDM>
C15	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C15	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C16	87-010-553-080		CAP,E 47-16
C65	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C65	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C75	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C75	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C101	87-010-194-080		CAP, CHIP 0.047
C102	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C103	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C103	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C104	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C104	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C105	87-010-260-080		CAP, ELECT 47-25V
C106	87-010-322-020		C-CAP,S 100P-50 CH<ZRNDM,YZRNDM>
C106	87-010-322-080		C-CAP,S 100P-50 CH<YZRNDCM,ZRDM>
C107	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C107	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C109	87-010-194-080		CAP, CHIP 0.047
C110	87-010-322-020		C-CAP,S 100P-50 CH<ZRNDM,YZRNDM>
C110	87-010-322-080		C-CAP,S 100P-50 CH<YZRNDCM,ZRDM>
C111	87-010-260-080		CAP, ELECT 47-25V
C112	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C112	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C114	87-010-553-080		CAP,E 47-16
C115	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C115	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C116	87-010-260-080		CAP, ELECT 47-25V
C117	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C117	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C118	87-010-264-080		CAP,E 100-10 5L
C119	87-015-819-080		CAPACITOR,0.01
C120	87-010-312-020		C-CAP,S 15P-50 J CH<ZRNDM,YZRNDM>
C120	87-010-312-080		C-CAP,S 15P-50 CH<YZRNDCM,ZRDM>
C121	87-010-312-020		C-CAP,S 15P-50 J CH<ZRNDM,YZRNDM>
C121	87-010-312-080		C-CAP,S 15P-50 CH<YZRNDCM,ZRDM>
C123	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C123	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C124	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C126	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C126	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C130	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C130	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C132	87-010-405-080		CAP, ELECT 10-50V
C133	87-010-314-020		C-CAP,S 22P-50 CH<ZRNDM,YZRNDM>
C133	87-010-314-080		C-CAP,S 22P-50V<YZRNDCM,ZRDM>
C140	87-010-322-020		C-CAP,S 100P-50 CH<ZRNDM,YZRNDM>
C140	87-010-322-080		C-CAP,S 100P-50 CH<YZRNDCM,ZRDM>
C151	87-010-405-080		CAP, ELECT 10-50V
C152	87-010-415-080		CAP ELE SRE 10-50V
C201	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C201	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C202	87-010-382-080		CAP, ELECT 22-25V
C203	87-010-318-020		C-CAP,S 47P-50 CH<ZRNDM,YZRNDM>
C203	87-010-318-080		C-CAP,S 47P-50 CH<YZRNDCM,ZRDM>
C204	87-010-318-020		C-CAP,S 47P-50 CH<ZRNDM,YZRNDM>
C204	87-010-318-080		C-CAP,S 47P-50 CH<YZRNDCM,ZRDM>
C205	87-010-178-020		C-CAP,S 1000-50 B<ZRNDM,YZRNDM>
C205	87-010-178-080		CHIP CAP 1000P<YZRNDCM,ZRDM>
C206	87-010-322-020		C-CAP,S 100P-50 CH<ZRNDM,YZRNDM>
C206	87-010-322-080		C-CAP,S 100P-50 CH<YZRNDCM,ZRDM>
C207	87-012-156-020		C-CAP,S 220P-50 CH<ZRNDM,YZRNDM>
C207	87-012-156-080		C-CAP,S 220P-50 CH<YZRNDCM,ZRDM>
C211	87-010-260-080		CAP, ELECT 47-25V
C220	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C220	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C230	87-010-178-020		C-CAP,S 1000-50 B<ZRNDM,YZRNDM>
C230	87-010-178-080		CHIP CAP 1000P<YZRNDCM,ZRDM>
C351	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C351	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C352	87-016-251-040		CAP,E 220-16 SMG
C353	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C353	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C361	87-010-403-080		CAP, ELECT 3.3-50V
C362	87-010-403-080		CAP, ELECT 3.3-50V
C501	87-016-459-040		CAP,E 470-10 SMG
C502	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C502	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C503	87-010-263-080		CAP, ELECT 100-10V
C504	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C504	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C505	87-010-197-020		C-CAP,S 0.01-25 B<ZRNDM,YZRNDM>
C505	87-010-197-080		CAP, CHIP 0.01 DM<YZRNDCM,ZRDM>
C506	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C506	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C507	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C507	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C508	87-010-073-080		CAP,E 3.3-50 5L
C509	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C509	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C510	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C510	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C511	87-016-459-040		CAP,E 470-10 SMG
C520	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C520	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
C901	87-010-260-040		CAP,E 47-25 SME
C902	87-010-196-020		C-CAP,S 0.1-25 Z F GRM <ZRNDM,YZRNDM>
C902	87-010-196-080		CHIP CAPACITOR,0.1-25 <YZRNDCM,ZRDM>
CN1	87-A60-424-010		CONN,16P V TOC-B
CN202	87-A60-154-010		CONN,6P H FE
CN231	87-A60-162-010		CONN,14P H FE
CON2	87-A60-623-010		CONN,6P V 2MM JMT
CON3	87-A60-133-010		CONN,8P V FE
L501	87-003-102-080		COIL, 10UH
LED901	87-A40-558-010		LED,SLZ-8128A-01-A
M601	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
⚠PR201	87-026-689-080		PROTECTOR,1A 60V 491
⚠PR350	87-A90-246-080		PROTECTOR,0.25A 60 4
S353	87-036-109-010		PUSH SWITCH
SW351	87-036-109-010		PUSH SWITCH
SW352	87-036-109-010		PUSH SWITCH
X101	87-030-270-080		VIB,XTAL 16.9344MHZ
LED C.B<ZRDM>			
LED701	87-017-733-080		LED,SEL1250SM<ZRDM>
LED702	87-017-350-080		LED,SEL1550CM<ZRDM>
LED703	87-017-733-080		LED,SEL1250SM<ZRDM>
T-T C.B			
C411	87-A11-148-080		CAP,TC U 0.1-50 Z F
CON8	87-A60-156-010		CONN,8P H FE
LED411	87-070-288-010		LED,GL380
M401	87-A90-036-010		MOT ASSY,RF-300CA-11
PS401	87-A90-156-010		SNSR,SG-240
S401	87-036-109-010		PUSH SWITCH
CD MOTOR C.B			
M20	87-045-358-010		MOT,RF-310TA 43
M21	87-045-356-010		MOT,RF-310TA 30
PIN3	87-A60-670-010		CONN,6P H 2MM JMT
SW1	87-A90-042-010		SW,LEAF MSW-17310MVP0

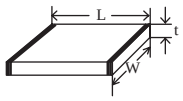
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

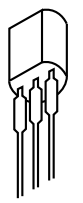
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

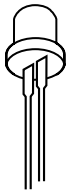
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード : A Resistor Code : A
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

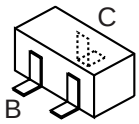


KTA1266

2SC2001
2SD2172



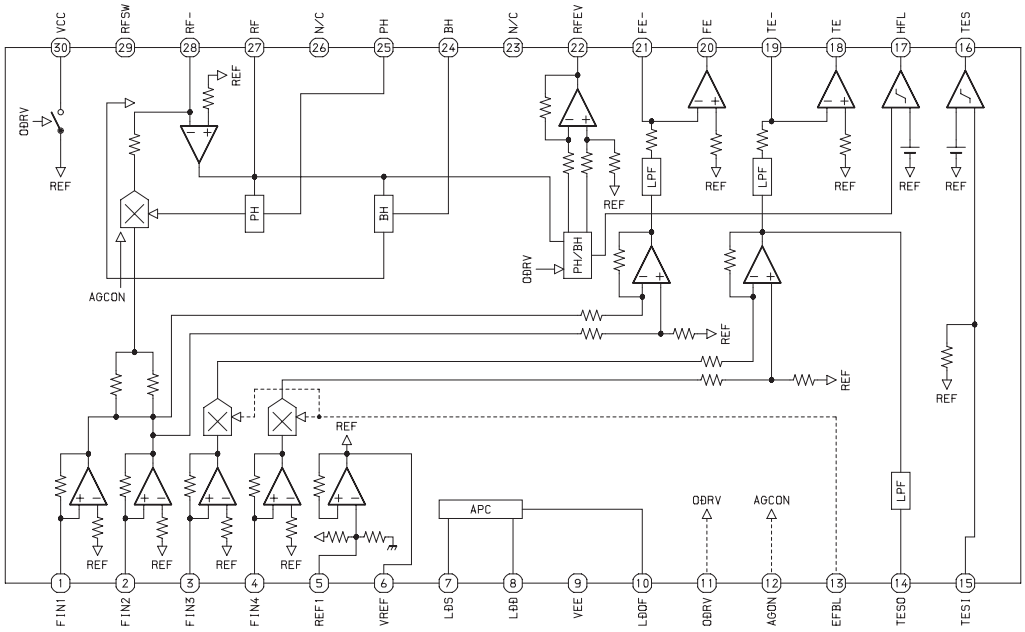
PT380F



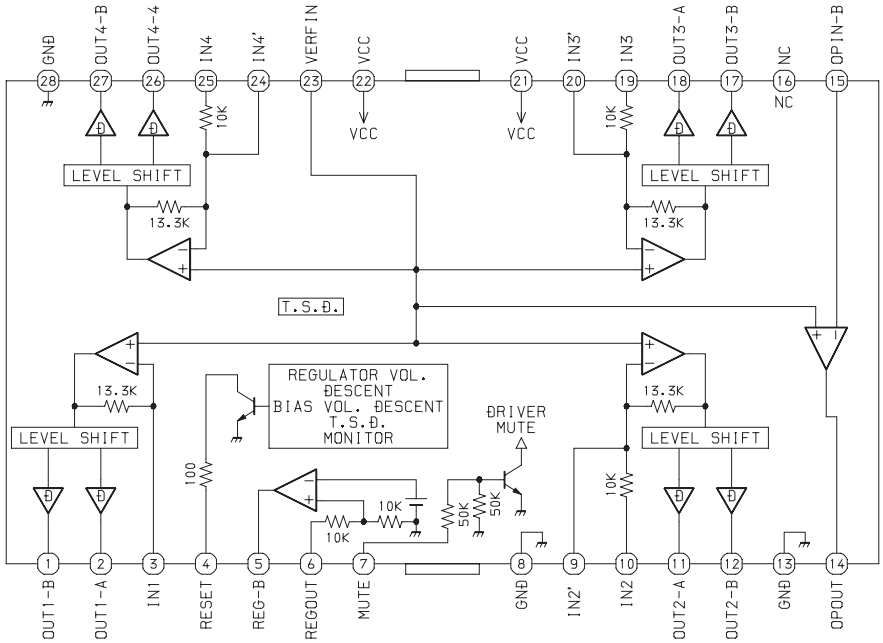
2SA1235
2SC3052
CSA952K
DTC123JK
DTC143TK

IC BLOCK DIAGRAM

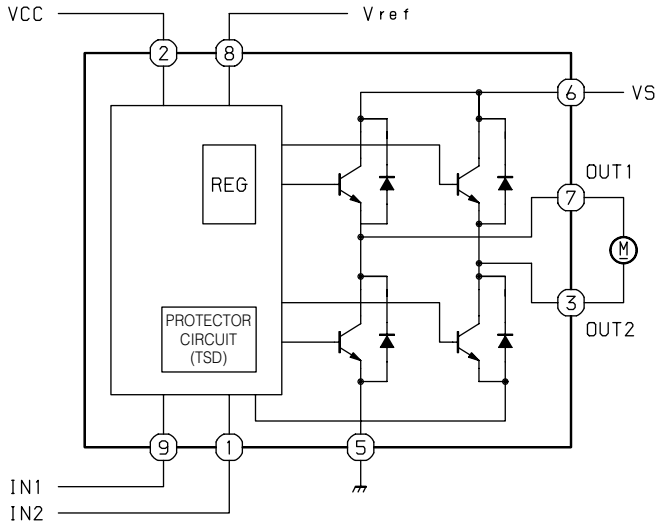
IC, LA9235M



IC, BA6998FP



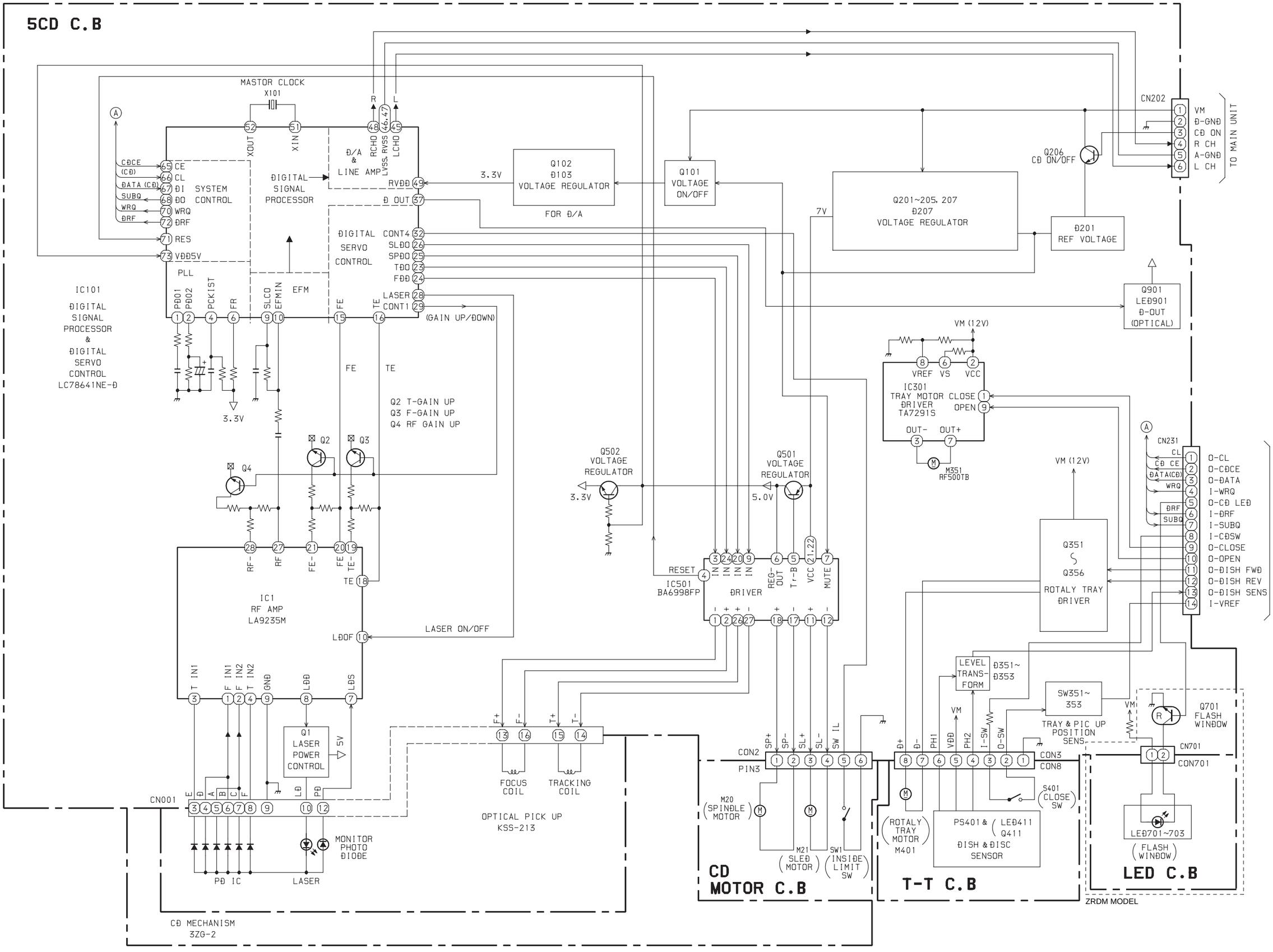
IC, TA7291S



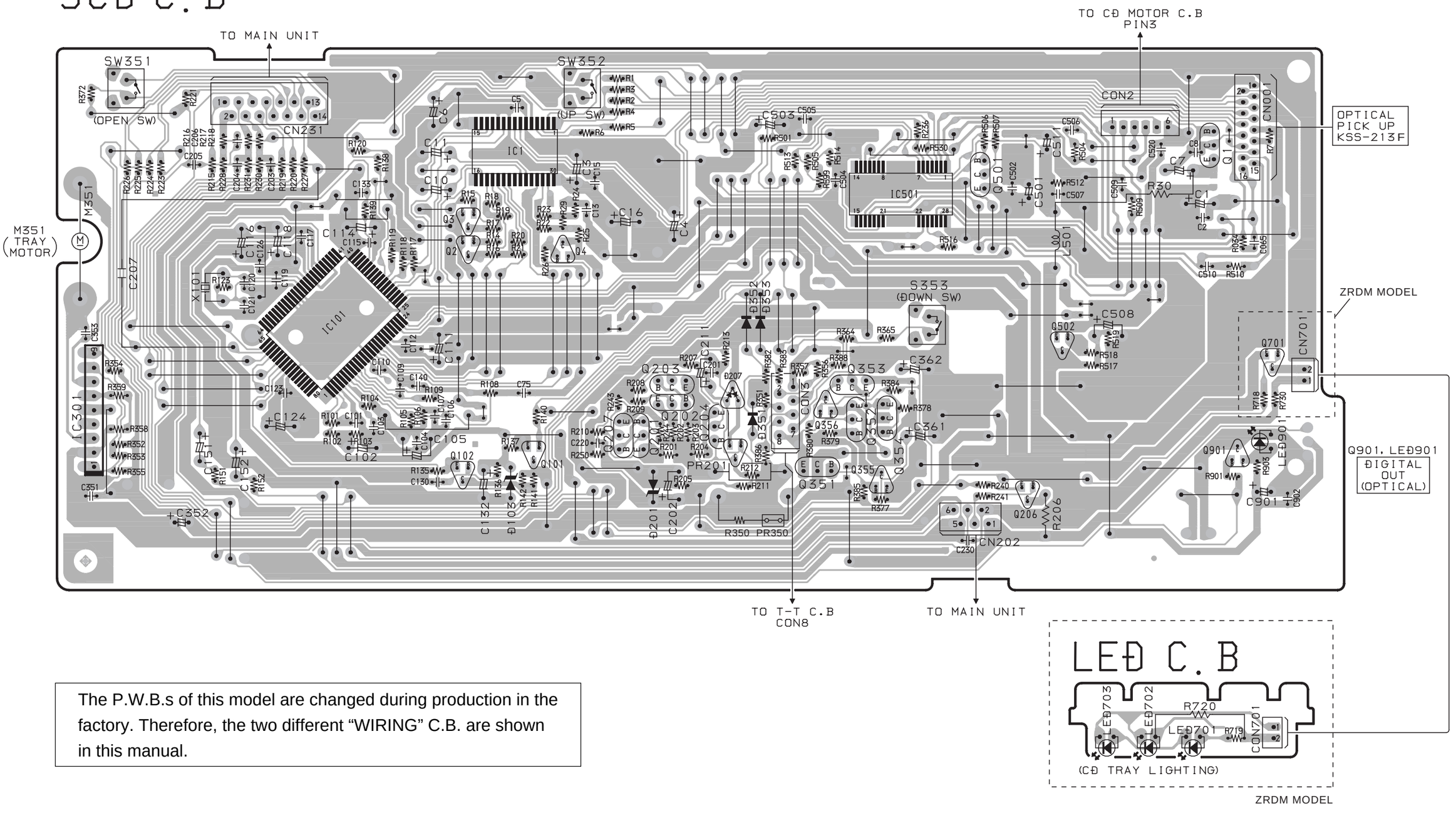
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

∞ : HI IMPEDANCE

NOTE : INPUT "H" ACTIVE


5CD C.B
MASTOR CLOCK
X101
XOUT
XIN
Đ/A & LINE AMP
RCHO
LVSS, RVSS
LCHO
R
L
CN202
VM
Đ-GNĐ
CĐ ON
R CH
A-GNĐ
L CH
TO MAIN UNIT
Q206
CĐ ON/OFF
CĐCE
(CĐ)
ĐATA (CĐ)
SUBQ
WRQ
ĐRF
CE
CL
ĐI
ĐO
WRQ
ĐRF
SYSTEM CONTROL
RES
VĐĐ5V
ĐIGITAL SIGNAL PROCESSOR
RVĐĐ
Đ OUT
3.3V
Q102
Đ103
VOLTAGE REGULATOR
FOR Đ/A
Q101
VOLTAGE ON/OFF
7V
Q201~205, 207
Đ207
VOLTAGE REGULATOR
Đ201
REF VOLTAGE
ĐIGITAL SERVO CONTROL
CONT4
SLĐO
SPĐO
TĐO
FĐĐ
LASER
CONT1
(GAIN UP/ĐOWN)
Q901
LEĐ901
Đ-OUT
(OPTICAL)
IC101
ĐIGITAL SIGNAL PROCESSOR & ĐIGITAL SERVO CONTROL LC78641NE-Đ
PLL
EFM
PĐO1
PĐO2
PCK1ST
FR
SLCO
EFMIN
FE
TE
3.3V
FE
TE
Q2 T-GAIN UP
Q3 F-GAIN UP
Q4 RF GAIN UP
Q2
Q3
Q4
VM (12V)
VREF
VS
VCC
IC301
TRAY MOTOR ĐRIVER
TA7291S
CLOSE
OPEN
OUT-
OUT+
M351
RF500TB
CN231
CL
CĐ CE
ĐATA(CĐ)
WRQ
ĐRF
SUBQ
O-CL
O-CĐCE
O-ĐATA
I-WRQ
O-CĐ LEĐ
I-ĐRF
I-SUBQ
I-CĐSW
O-CLOSE
O-OPEN
O-ĐISH FWĐ
O-ĐISH REV
O-ĐISH SENS
I-VREF
Q502
VOLTAGE REGULATOR
3.3V
Q501
VOLTAGE REGULATOR
5.0V
VM (12V)
Q351
Q356
ROTALY TRAY ĐRIVER
RESET
IC501
BA6998FP
ĐRIVER
IN1
IN2
IN3
IN4
REG-OUT
Tr-B
VCC
MUTE
RF-
RF
FE-
FE
TE-
TE
IC1
RF AMP
LA9235M
LĐOF
LASER ON/OFF
T IN1
F IN1
F IN2
T IN2
GNĐ
LĐĐ
LĐS
Q1
LASER POWER CONTROL
5V
F+
F-
T+
T-
FOCUS COIL
TRACKING COIL
OPTICAL PICK UP
KSS-213
CN001
E
Đ
A
B
C
F
LĐ
PĐ
PĐ IC
LASER
MONITOR PHOTO ĐIOĐE
CĐ MECHANISM
3ZG-2
CON2
PIN3
SP+
SP-
SL+
SL-
SW IL
M20
SPINĐLE MOTOR
M21
SLEĐ MOTOR
SW1
INSIĐE LIMIT SW
CD MOTOR C.B
Đ+
Đ-
PH1
VĐĐ
PH2
I-SW
O-SW
CON3
CON8
LEVEL TRANS-FORM
Đ351~ Đ353
SW351~ 353
TRAY & PIC UP POSITION SENS
S401
CLOSE SW
ROTALY TRAY MOTOR
M401
PS401 & ĐISH & ĐISC SENSOR
LEĐ411
Q411
T-T C.B
VM
Q701
FLASH WINĐOW
CN701
CON701
LEĐ701~703
(FLASH WINĐOW)
LED C.B
ZRDM MODEL

5CD C.B



The P.W.B.s of this model are changed during production in the factory. Therefore, the two different “WIRING” C.B. are shown in this manual.

5CĐ C.B

TO MAIN UNIT

TO CĐ MOTOR C.B
PIN3

SW351
(OPEN SW)

SW352
(UP SW)

CN231

CON2

CN001

OPTICAL
PICK UP
KSS-213F

M351

M351
TRAY
(MOTOR)

IC1

IC101

IC501

X101

S353
(ĐOWN SW)

ZRDM MODEL

CN701

Q901, LEĐ901
ĐIGITAL
OUT
(OPTICAL)

IC301

Q203

Q202

Q201

Q207

Q204

Q353

Q356

Q354

Q355

Q351

Q502

Q501

Q701

Q901

Q102

Q101

Q206

CON3

CN202

FB201

FB202

FB203

FB902

FB901

PR201

PR350

R350

C352

C230

TO T-T C.B
CON8

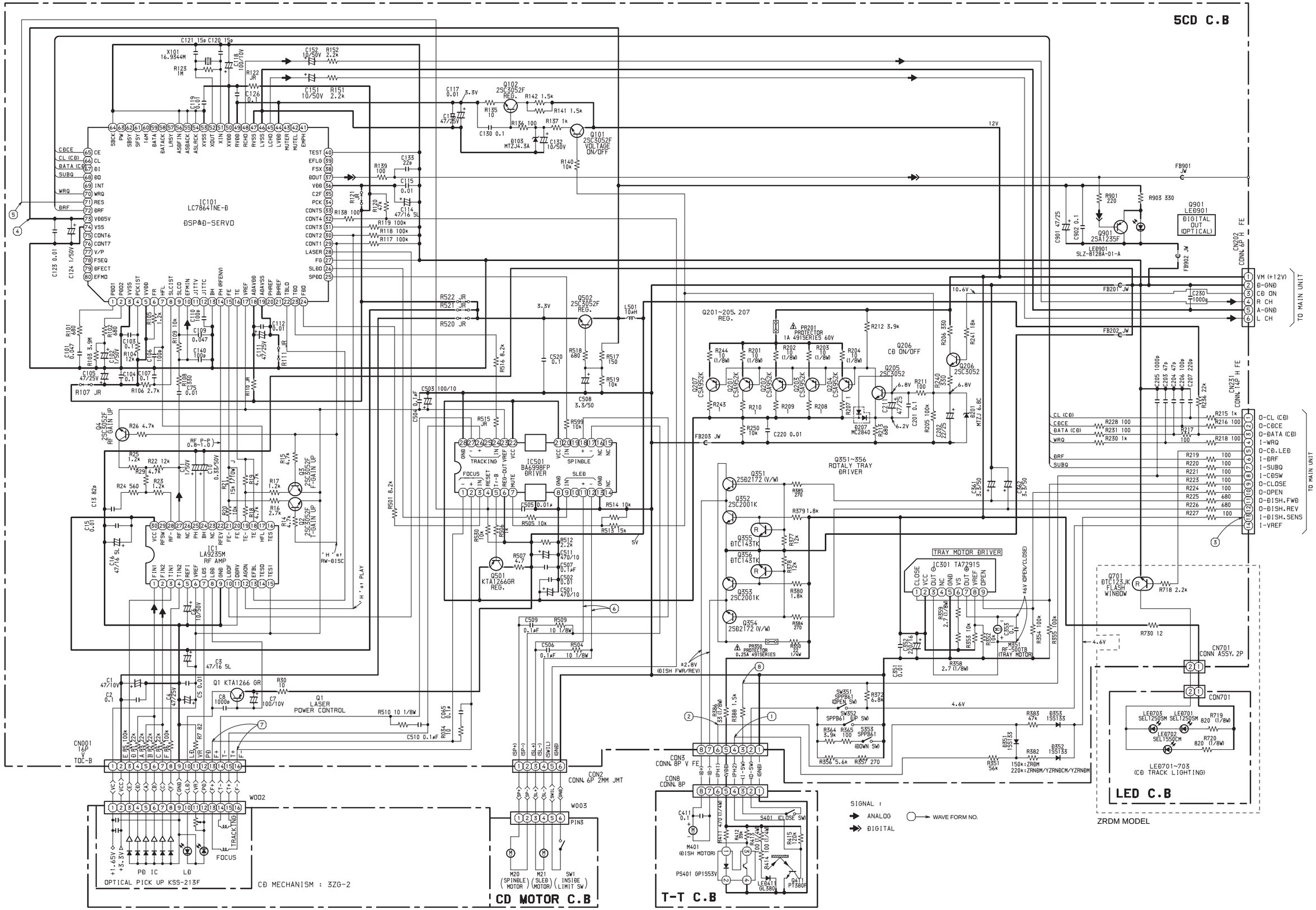
TO MAIN UNIT

The P.W.B.s of this model are changed during production in the factory. Therefore, the two different “WIRING” C.B. are shown in this manual.

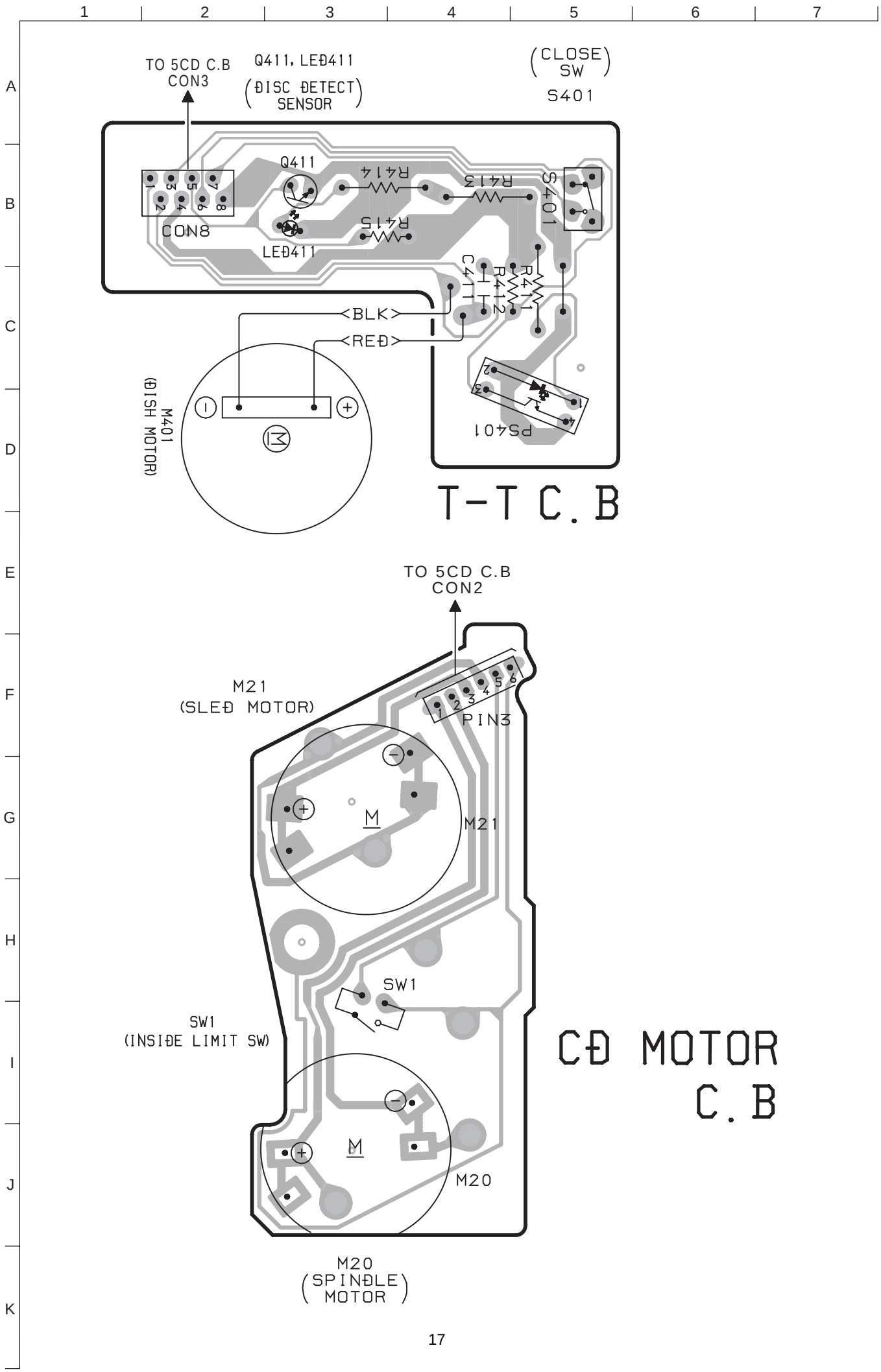
LEĐ C.B

LEĐ703
LEĐ702
LEĐ701
R720
R719
CN701
(CĐ TRAY LIGHTING)

ZRDM MODEL


5CD C.B
IC101
LC78641NE-Ð
ÐSP&Ð-SERVO
IC LA9235M
RF AMP
RF-DISC
H : at PLAY
OPTICAL PICK UP KSS-213F
CÐ MECHANISM : 3ZG-2
PÐ IC
LÐ
TRACKING
FOCUS
IC501
BA6998FP
ÐRIVER
SPINDLE
SLED
TRACKING
FOCUS
M20
(SPINDLE)
MOTOR
M21
(SLED)
MOTOR
SW1
INSIDE
LIMIT SW
CD MOTOR C.B
Q1
LASER
POWER CONTROL
Q1 KTA1266 GR
Q501
KTA1266GR
REG.
Q502
2SC3052F
REG.
Q101
2SC3052F
VOLTAGE
ON/OFF
Q102
2SC3052F
REG.
Q201~205, 207
REG.
Q206
CÐ ON/OFF
Q205
2SC3052
Q206
2SC3052
Q207
CSA952K
Q201
CSA952K
Q202
CSA952K
Q203
CSA952K
Q204
CSA952K
PR201
PROTECTOR
1A 491SERIES 60V
Q351~356
ROTALY TRAY
ÐRIVER
Q351
2SD2172 (V/W)
Q352
2SC2001K
Q355
ÐTC143TK
Q356
ÐTC143TK
Q353
2SC2001K
Q354
2SD2172 (V/W)
PR350
PROTECTOR
0.25A 491SERIES
TRAY MOTOR ÐRIVER
IC301 TA7291S
M351
RF-500TB
(TRAY MOTOR)
Q901
LED901
ÐIGITAL
OUT
(OPTICAL)
Q901
2SA1235F
LED901
SLZ-B128A-01-A
Q701
ÐTC123JK
FLASH
WINDOW
LED701~703
(CÐ TRACK LIGHTING)
LED C.B
ZRDM MODEL
CN701
CONN ASSY. 2P
CON701
CN231
CONN 14P H FE
CN202
CONN 6P H FE
TO MAIN UNIT
VM (+12V)
Ð-GNÐ
CÐ ON
R CH
A-GNÐ
L CH
O-CL (CÐ)
O-CBCE
O-ÐATA (CÐ)
I-WRQ
O-CÐ.LEÐ
I-ÐRF
I-SUBQ
I-CÐSW
O-CLOSE
O-OPEN
O-ÐISH.FWÐ
O-ÐISH.REV
I-ÐISH.SENS
I-VREF
CON3
CONN 8P V FE
CON8
CONN 8P
CON2
CONN 6P 2MM JMT
CN001
16P
V
TOC-B
W002
W003
PIN3
T-T C.B
SIGNAL :
ANALOG
ÐIGITAL
WAVE FORM NO.
12V
10.6V
4.6V
3.3V
±2.8V
(ÐISH FWR/REV)
±6V (OPEN/CLOSE)
M401
(ÐISH MOTOR)
PS401 GP1S53V
LED411
GL380
Q411
PT380F

WIRING-2 (T-T/CD MOTOR)



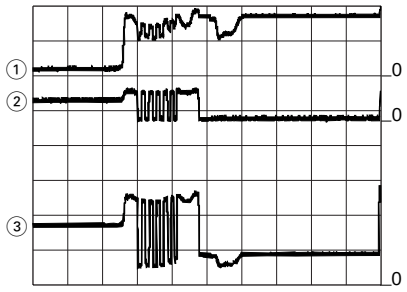
WAVE FORM

① CON3 Pin ④ (PH2) VOLT/DIV: 5V
TIME/DIV: 2S

② CON3 Pin ⑥ (PH1) VOLT/DIV: 10V
TIME/DIV: 2S

③ CN231 Pin ⑬ (I-DISH. SENS) VOLT/DIV: 2V
TIME/DIV: 2S

(NO DISC)

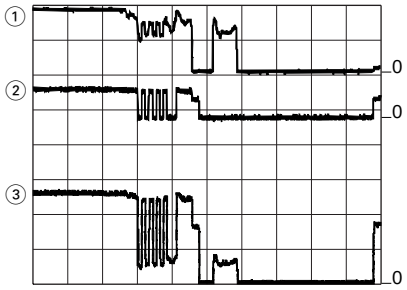


① CON3 Pin ④ (PH2) VOLT/DIV: 5V
TIME/DIV: 2S

② CON3 Pin ⑥ (PH1) VOLT/DIV: 10V
TIME/DIV: 2S

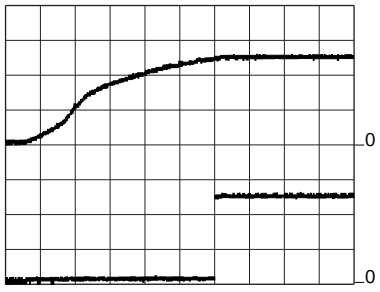
③ CN231 Pin ⑬ (I-DISH. SENS) VOLT/DIV: 2V
TIME/DIV: 2S

(YES DISC)

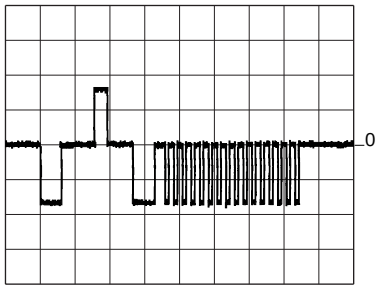


④ IC101 Pin ⑬ VDD5V VOLT/DIV: 2V
TIME/DIV: 5mS

⑤ IC101 Pin ⑪ RES VOLT/DIV: 2V
TIME/DIV: 5mS

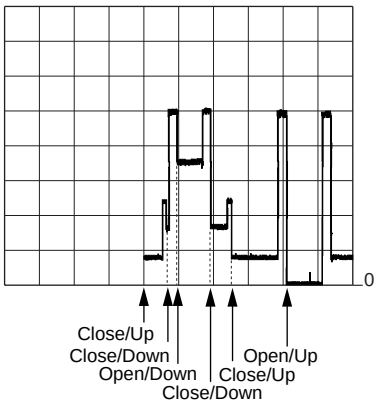


⑥ Between IC501 VOLT/DIV: 1V
Pin ⑪ (SLED+) and ⑫ (SLED–) TIME/DIV: 2S
(Shutter Close)



⑦ Between CN001 VOLT/DIV: 1V
Pin ⑬ (F+) and ⑯ (F–) TIME/DIV: 5S
(Focus Search)

⑧ R388 VOLT/DIV: 1V
TIME/DIV: 5S



TEST MODE

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the CD function button.
   When activating the test mode, “TEST” appears on the screen then all indicators light (start mode).

2. How to Cancel the CD Test Mode
   Press the POWER button or disconnect the AC plug.
   * When pressing any other function key during playback, the test mode is released.

3. Functions and Applications of CD Test Mode

Mode/No.	Operation key	Display	Operation	Check contents
Start mode No.1		All lamps light	• All FLs light	• FL check • Microprocessor check
Search mode No.2	STOP key	CD	• Laser diode always turns ON • Focus search continuos operation *1 • Spindle motor continuos kick	• APC circuit check • Laser current measurement • Focus search waveform check • Focus error waveform check (DPR is ignored during search mode.)
Play mode No.3	PLAY key	Normal	• Normal playback • Focus search is continued if TOC cannot be read.	• Each servo circuit check • DPR check
Traverse mode No.4	PAUSE key	Normal	• Tracking servo OFF/ON Repeats OFF and ON every time the PAUSE key is pressed.	• Tracking balance check
Sled mode No.5	FF key	CD TEST	• Pickup moves to the innermost track *2 The lens is kicked to the innermost track simultaneously.	• Sled circuit check • Tracking circuit check • Mechanism operation check • PU check
	RWD key	CD TEST	• Pickup moves to the outermost track *2 The lens is kicked to the outermost track simultaneously.	
Spindle mode No.6	TAPE REC key	All lamps light	• The spindle motor is rotated forward (rough speed) by pressing the key. It is rotated reverse by pressing the key again. It is stopped by another pressing of the button.	• Spindle circuit check • Spindle motor check
RF AGC mode No.7	TUNER key	AGC ON/OFF	• Repeats ON and OFF every time the TUNER key is pressed. • To return to the start mode display, press the CD key three times.	• PC good or no good check • RF AMP circuit check

*1 ..... There are cases when the focus search cannot be operated owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases turn off the power, wait for a while, then re-start the machine.

*2 ..... To avoid damage to the gears, do not keep pressing the FF or RWD key when the pickup is at the outermost or innermost track, because the sled motor keeps running while the FF or RWD key is pressed when the pick-up is at the outermost or innermost track.

4. Adjustment Result Display of Auto Adjustment Items
The auto adjustment values of the focus and the tracking can be displayed on the screen.

4-1. Auto Adjustment Result Display of Focus Offset Cancel/Gain

1) Set the start mode (all lamps light).
2) Press the TAPE key until “F***” appears. Select ON or OFF of the adjustment items. (Refer to the table below.)
3) Press the PLAY key to play back the CD.
4) Press the CD key.
5) The auto adjustment value “F******” appears on the display. (Refer to the table below.)
6) After checking, press the CD key twice to return to the play mode (normal display).

Adjustment item (ON = 1, OFF = 0)				Auto adjustment value display (* is hexadecimal.)			
F	OFFSET	BIAS	GAIN	F	OFFSET	BIAS	GAIN
F	0	0	0	F	No display	No display	No display
F	1	1	1	F	**	**	**
F	1	1	0	F	**	**	No display
F	1	0	1	F	**	No display	**
F	1	0	0	F	**	No display	No display
F	0	1	1	F	No display	**	**
F	0	1	0	F	No display	**	No display
F	0	0	1	F	No display	No display	**

∗ When nothing is displayed (No display), a blank equal to two characters is created on the display.

4-2. Auto Adjustment Result Display of Tracking Offset Cancel/Balance/Gain

1) Set the start mode (all lamps light).
2) Keep pressing the AUX key until “T***” appears. Select ON or OFF for each adjustment item. (Refer to the table below.)
3) Press the PLAY key to play back the CD.
4) Press the CD key twice.
5) The auto adjustment value “T******” appears on the display. (Refer to the table below.)
6) After checking, press the CD key once to return to the play mode (normal display).

Adjustment item (ON = 1, OFF = 0)				Auto adjustment value display (* is hexadecimal.)			
T	OFFSET	BALANCE	GAIN	F	OFFSET	BALANCE	GAIN
T	0	0	0	T	No display	No display	No display
T	1	1	1	T	**	**	**
T	1	1	0	T	**	**	No display
T	1	0	1	T	**	No display	**
T	1	0	0	T	**	No display	No display
T	0	1	1	T	No display	**	**
T	0	1	0	T	No display	**	No display
T	0	0	1	T	No display	No display	**

∗ When nothing is displayed (No display), a blank equal to two characters is created on the display.

IC DESCRIPTION

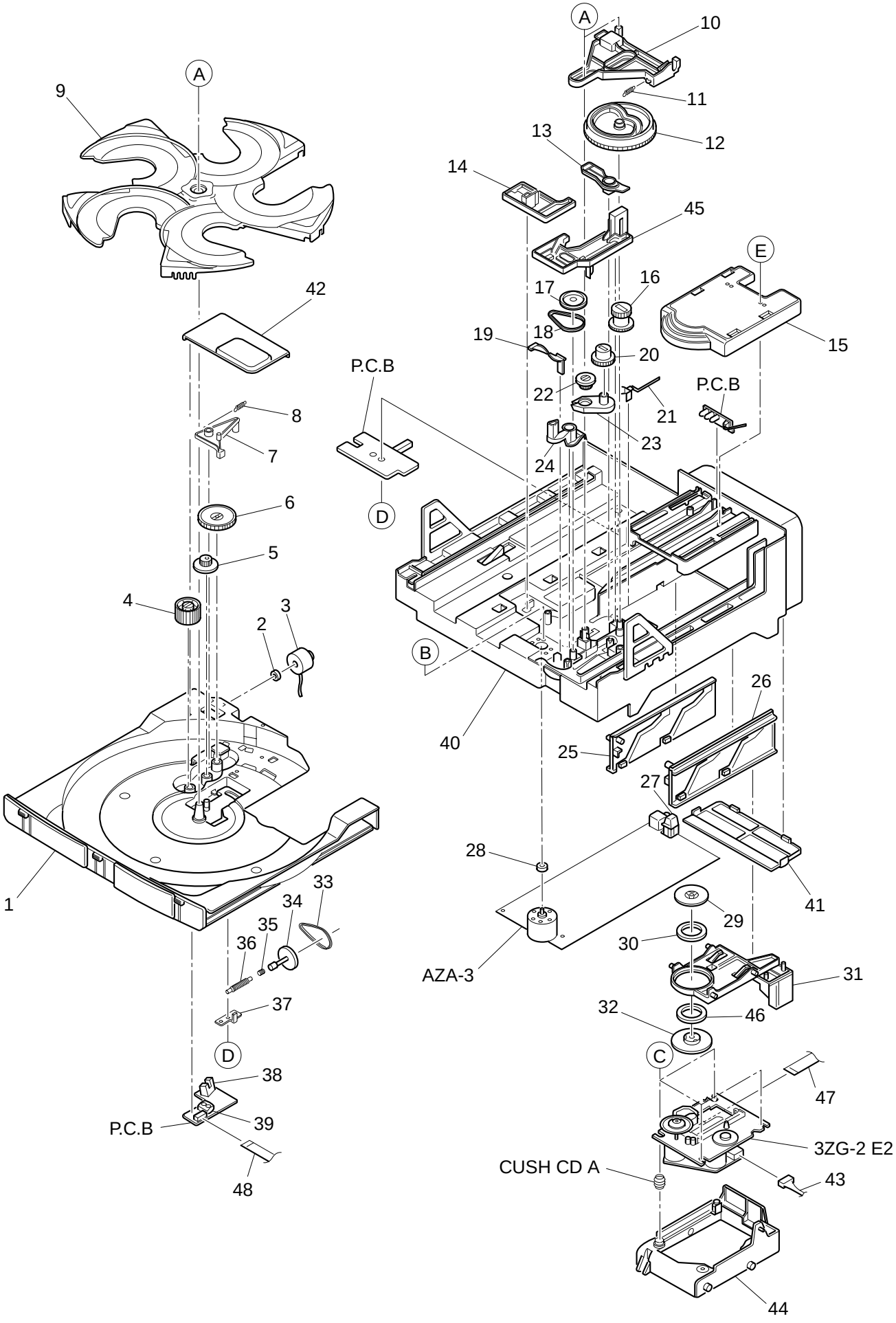
IC, LC78641NE-D

Pin No.	Pin Name	I/O	Description
1	PDO1	O	Internal VCO control phase comparator output pin. (Pull down)
2	PDO2	O	Internal VCO control phase comparator output pin. OFF for rough servo, ON for phase servo. (Pull down)
3	VVSS	—	Internal VCO ground pin.
4	PCKIST	—	PDO output current adjustment resistor connection pin.
5	VVDD	—	Internal VCO power supply pin.
6	FR	—	VCO frequency range adjustment resistor connection pin. (Pull up)
7	HFL	I	Mirror detection signal input pin.
8	SLCIST	—	SLCO output current adjustment resistor connection pin.
9	SLCO	O	Control output.
10	EFMIN	I	EFM signal input pin.
11	JITTV	O	Jitter detection monitor pin. (Not connected)
12	JITTC	O	Jitter detection adjustment pin. (Pull down)
13	BH	I	BH signal input pin. (Connected to GND)
14	PH (RFENV)	I	PH signal or RFENV signal input pin.
15	FE	I	FE signal input pin.
16	TE	I	TE signal input pin.
17	VREF	I	VREF input pin.
18	ADAVDD	—	Servo A/D, D/A power supply pin.
19	ADAVSS	—	Servo A/D, D/A ground pin.
20	PHREF	O	PH reference output pin. (Not connected)
21	BHREF	O	BH reference output pin. (Not connected)
22	TBLO	O	Tracking balance output pin.
23	TDO	O	Tracking control output pin.
24	FDO	O	Focus control output pin.
25	SPDO	O	Spindle control output pin.
26	SLDO	O	Thread control output pin.
27	DVREF/FG	I/O	Output driver VREF output pin. FG signal input pin. (Connected to GND)
28	LASER	O	Laser ON/OFF control pin.
29	CONT1	I/O	General-purpose input/output pin 1. (Connected to GND)
30	CONT2	I/O	General-purpose input/output pin 2. (Connected to GND)
31	CONT3	I/O	General-purpose input/output pin 3. (Connected to GND)
32	CONT4	I/O	General-purpose input/output pin 4.
33	CONT5	I/O	General-purpose input/output pin 5. (Not connected)
34	PCK	O	EFM data playback clock monitor pin. Average 4.3218MHz when the phase is locked. (Not connected)
35	C2F	O	C2 flag output pin. (Not connected)
36	VDD	—	Digital power supply pin.
37	DOUT	O	Digital out output pin. (EIAJ format)
38	FSX	O	Output pin for the 7.35kHz synchronization signal divided from the crystal oscillator. (Not connected)

Pin No.	Pin Name	I/O	Description
39	EFLG	O	C1, C2 error correction monitor pin. (Not connected)
40	TEST	I	Test input pin. (Connected to GND)
41	EMPH	I/O	Emphasis pin. Which becomes an input pin after reset and can be controlled externally. This becomes an emphasis monitor pin under control by command. (Not connected)
42	MUTEL	O	L channel mute output pin. (Not connected)
43	MUTER	O	R channel mute output pin. (Not connected)
44	LVDD	—	L channel power supply pin.
45	LCHO	O	L channel output pin.
46	LVSS	—	L channel ground pin.
47	RVSS	—	R channel ground pin.
48	RCHO	O	R channel output pin.
49	RVDD	—	R channel power supply pin.
50	XVDD	—	Crystal oscillator power supply pin.
51	XIN	I	Connections for a 16.9344MHz crystal oscillator pin.
52	XOUT	O	
53	XVSS	—	Crystal oscillator ground pin.
54	ASLRCK	I	L/R clock input pin. (Connected to GND)
55	ASDACK	I	Bit clock input pin. (Connected to GND)
56	ASDFIN	I	L/R channel data input pin. (Connected to GND)
57	LRSY	O	L/R clock output pin. (Not connected)
58	DATACK	O	Bit clock output pin. (Not connected)
59	DATA	O	L/R channel data output pin. (Not connected)
60	16M	O	16.9344MHz output pin. (Not connected)
61	SFSY	O	Subcode frame synchronization signal output pin. This signal falls when the subcode is in the standby state. (Not connected)
62	SBSY	O	Subcode clock synchronization signal output pin. (Not connected)
63	PW	O	Subcode P, Q, R, S, T, U and W output pin. (Not connected)
64	SBCK	I	Subcode readout clock input pin. (Connected to GND)
65	CE	I	Chip enable signal input pin.
66	CL	I	Data transfer clock input pin.
67	DI	I	Data input pin.
68	DO	O	Data output pin.
69	INT	O	Interruption signal output pin. (Not connected)
70	WRQ	O	Interruption signal output pin.
71	RES	I	Reset input pin. This pin must be set low briefly after power is first applied.
72	DRF	O	Focus ON detect pin.
73	VDD5V	—	Microprocessor interface power supply.
74	VSS	—	Digital ground pin.
75	CONT6	I/O	General-purpose input/output pin 6. (Not connected)
76	CONT7	I/O	General-purpose input/output pin 7. (Not connected)
77	V/P	O	Rough servo/phase control automatic switching monitor output pin. “H” for rough servo and “L” for phase servo. (Not connected)

Pin No.	Pin Name	I/O	Description
78	FSEQ	O	Synchronization signal detection output pin. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal agree. (Not connected)
79	DEFECT	I/O	Defect pin. Which becomes an input pin after reset and can be controlled externally. This becomes the defect monitor pin under control by command. (Not connected)
80	EFMO	O	EFM signal output pin. (Not connected)

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL PARTS LIST 1/1

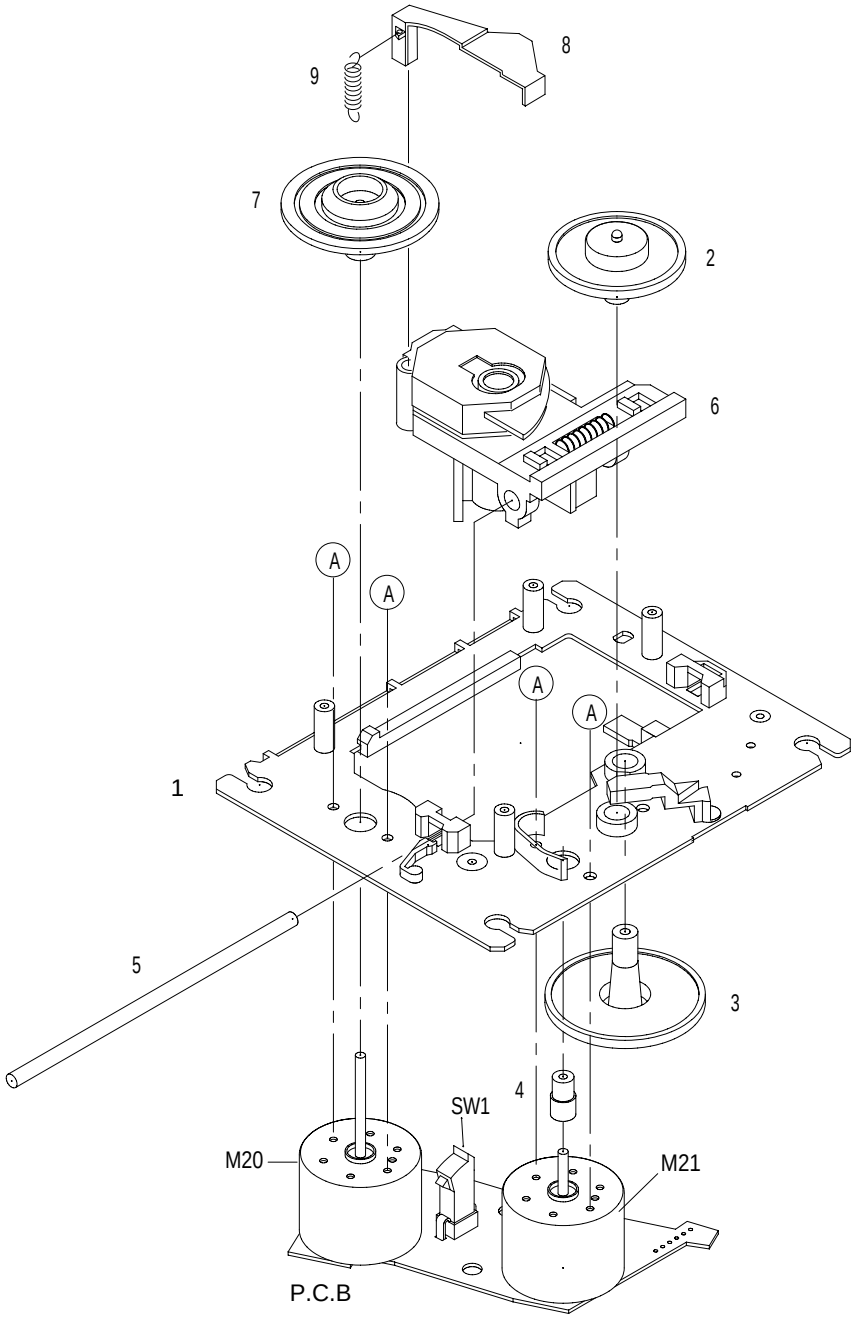
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZG1-001-410		TRAY,5CD
2	84-ZG1-267-010		PULLEY,LOAD MO 8
3	87-A90-036-010		MOT ASSY,RF-300CA-11
4	86-ZG1-228-110		GEAR,TT-B
5	86-ZG1-227-110		GEAR,TT-A
6	86-ZG1-223-110		GEAR,WORM-WHEEL TT
7	86-ZG1-224-110		LEVER,TT(*)
8	86-ZG1-226-010		SPR-E,LEVER TT
9	86-ZG1-002-210		TURN TABLE,5CD
10	86-ZG1-211-210		JOINT,CAM
11	86-ZG1-216-010		SPR-E,JT
12	86-ZG1-203-210		GEAR,MAIN CAM
13	86-ZG1-213-110		LEVER,LOAD
14	86-ZG1-214-110		LEVER,PROTECT
15	86-ZG1-004-010		REFLECTOR,CD<ZRDM>
16	86-ZG1-205-110		GEAR,TRAY
17	84-ZG1-207-010		PULLEY,RELAY
18	84-ZG1-209-010		BELT,SQ1.8-117.7
19	86-ZG1-217-010		LEVER,SW
20	86-ZG1-206-110		GEAR,RELAY B
21	86-ZG1-220-110		SPR-P,LOCK
22	86-ZG1-204-110		GEAR,RELAY A
23	86-ZG1-218-110		PLATE,GEAR
24	86-ZG1-208-010		LEVER,TRAY
25	86-ZG1-209-110		SLIDER,CAM L(*)
26	86-ZG1-210-110		SLIDER,CAM R(*)
27	84-ZG1-244-310		CABI,OPTICAL
28	84-ZG2-228-010		PULLEY,MOT
29	86-ZG1-239-110		PLATE,DISC
30	83-ZG3-604-010		RING,MAG 2
31	86-ZG1-215-010		HLDR,CHUCK
32	86-ZG1-238-010		HLDR,MAGNET 6ZG N
33	86-ZG1-225-010		BELT,SQ1.2-32.9
34	86-ZG1-221-010		PULLEY,TT
35	86-ZG1-231-010		SPR-C,WORM
36	84-ZG1-256-010		GEAR,WORM N2
37	86-ZG1-232-010		SPR-P,WORM
38	86-ZG1-229-010		HLDR,SENSOR
39	86-ZG1-230-010		HLDR,DISC SENSOR
40	86-ZG1-201-310		CHAS,MECHA
41	86-ZG1-005-110		COVER,CHAS
42	86-ZG1-003-110		COVER,TRAY<ZRDM>
43	86-ZG1-609-010		CONN ASSY,6P<EXCEPT YZRNDCM>
44	86-ZG1-202-210		HLDR,MECHA
45	86-ZG1-212-410		SLIDER,LOAD
46	83-ZG3-211-010		PLATE,DISC
47	86-ZG1-605-010		CABLE,FFC 16P<EXCEPT YZRNDCM>
48	86-ZG1-667-010		F-CABLE,8P 1.25 175MM BLACK
A	87-078-148-010		VFT2+3-12(F10) BLK
B	87-251-072-410		U+2.6-5
C	81-ZG1-254-010		S-SCREW,MECH HLDR
D	87-067-579-010		TAPPING SCREW, BVT2+3-8
E	87-067-703-010		TAPPING SCREW, BVT2+3-10<ZRDM>

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		

CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2E2)



CD MECHANISM PARTS LIST 1/1 (3ZG-2E2)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-246-310		CHAS ASSY,SHT 5
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR,MOTOR 3
5	83-ZG2-253-110		SHAFT,SLIDE 5
6	87-A90-836-010		PICKUP,KSS-213F
7	83-ZG2-254-010		TURN TABLE,C5
8	83-ZG2-245-510		LEVER,SHUTTER(*)
9	83-ZG2-250-110		SPR-E,SHT 2
A	87-261-032-210		V+2-3

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

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